Elisabeth Emilie Sefranek Rongved

Professional expertise on social media.

A critical discourse analysis of Instagram posts by three medical professionals during the COVID-19 pandemic

Master's thesis in Master i språk og kommunikasjon i profesjoner
Supervisor: Heidi Gilstad
June 2023

Master's thesis

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Summary

This thesis draws attention to Instagram as an arena for medical professional communication during the COVID-19 pandemic. Instagram during the pandemic can be described as a «crucial communicative site at (a) critical moment» (Sarangi & Candlin, 2010, p.1).

The thesis is a qualitive case study of documents. It explores Instagram posts written by three medical professionals who during the pandemic had public Instagram accounts under their full name, displaying their status as medical professionals, and who regularly posted content related to the COVID-19 vaccine.

The study draws on *social constructivist* and *interactionist* perspectives and takes a dialogical approach (Bakhtin, 2005) to language and communication. The analytical framework is Gee's critical discourse analysis (Gee, 2011, 2014), supported by Myers' (Myers, 2010) and Hyland's (Hyland, 2005) contributions to the analysis of linguistic markers in written texts. Marwick and boyd's description of online writers' "imagined audience" (Marwick & boyd, 2010) and Linell's perspectives on contexts (Linell, 2001) have also contributed to the analysis of the writers' interactions with their readers.

The thesis aims to investigate which linguistic and communicative features the medical professionals apply to express what they know and believe in their communication of the COVID-19 vaccines on Instagram; what they are doing communicatively by applying these features; and what this says about their communicative expertise (Sarangi, 2018).

The analysis shows that the medical professionals are privileging the Discourse (Gee, 2014) of medicine and science in their communication on Instagram. They are positioning themselves as more knowledgeable as the reader, similar to the traditional roles of doctors vs patients in the clinic. However, the analysis also shows that they are also expertly handling the affordances and limitations of Instagram as a medium, and participating in the Discourses of Instagram, which includes participating in and contributing to the larger Conversation (Gee, 2014) of COVID-19.

As such, the results indicate that communicative expertise for medical professionals on Instagram is not limited to giving the reader access to "scientific/technical knowledge and clinical/experiential knowledge" (Friedson, 1970 in Sarangi, 2010, p.171) through a competent handling of the medium. Rather, medical professionals on Instagram develop their communicative expertise in dialogue with both their traditional Discourse and the new, evolving Discourses on Instagram.

Sammendrag

Denne masteroppgaven retter søkelyset på Instagram som arena for profesjonell kommunikasjon for medisinske fagpersoner under COVID-19-pandemien. Instagram under pandemien kan ses på som et eksempel på en «*crucial communicative site at (a) critical momen*t» (Sarangi & Candlin, 2010, s.1).

Oppgaven er en kvalitativ casestudie av dokumenter. I oppgaven utforskes Instagram-innlegg skrevet av tre medisinske fagpersoner. Alle var på Instagram under fulle navn og profesjonelle titler, og de postet regelmessig innhold relatert til COVID-19-vaksinen.

Studien tar utgangspunkt i *sosialkonstruktivistiske* og *interaksjonistiske* perspektiver, og har en *dialogisk* tilnærming (Bakhtin, 2005) til språk og kommunikasjon. Det analytiske rammeverket er Gees kritiske diskursanalyse (Gee, 2011, 2014), understøttet av Myers (Myers, 2010) og Hylands (Hyland, 2005) bidrag til analyse av språklige markører i skriftlige tekster. Marwick og boyds beskrivelse av det "imaginære publikumet" (imagined audiences) (Marwick & boyd, 2010) for skrivere av digitale tekster, samt Linells perspektiver på kontekst (Linell, 2001) har også bidratt til analysen av Instagram-forfatternes interaksjoner med leserne.

Oppgaven tar sikte på å undersøke hvilke språklige og kommunikative virkemidler medisinske fagpersoner bruker for å uttrykke det de vet og tror når de kommuniserer om COVID-19-vaksinene på Instagram; hva de gjør kommunikativt ved å bruke disse virkemidlene; og hva dette sier om deres *kommunikative kompetanse* (Sarangi, 2018).

Analysen viser at medisinske og vitenskapelige Diskurser (Gee, 2014) er fremtredende i forfatternes kommunikasjon av medisin og vitenskap på Instagram. De posisjonerer seg som mer kunnskapsrike enn leseren, noe som kan minne om de tradisjonelle rollene i møter mellom lege og pasient. Analysen viser imidlertid også at de håndterer mulighetene og begrensningene på Instagram som medium, og at de deltar i det man kan kalle en «Instagram-Diskurs», noe som innebærer å delta i og bidra til den større Samtalen (*Conversation*) (Gee, 2014) om COVID-19 som foregikk på dette tidspunktet.

Resultatene indikerer derfor at kommunikativ ekspertise for medisinsk fagpersonell på Instagram ikke begrenser seg til å gi leseren tilgang til «vitenskapelig/teknisk kunnskap og klinisk/erfaringsmessig kunnskap» (Friedson, 1970 i Sarangi, 2010, s.171, min overs.) gjennom en kompetent håndtering av mediet. Snarere utvikler medisinske fagpersoner på Instagram sin kommunikative ekspertise i dialog med både sin tradisjonelle, farlige Diskurs og de nye, stadig foranderlige Diskursene på Instagram.

Forord

«Jeg gir dette et semester om gangen, så får vi se hvordan det går,» tenkte jeg.
Vi spiste marsipankake i et klasserom på Moholt campus på NTNU på sensommeren 2019. Det var med rette grunn til å feire det splitter nye masterprogrammet i språk og kommunikasjon i profesjoner, det var jeg enig i. Motivasjonen for å studere var også på plass, selv om det kom til å bli et styr å være deltidsstudent ved siden av jobb (og så skulle det visst komme en pandemi også, men det visste ikke vi da vi sto der med kakestykkene våre og smilte nysgjerrige til hverandre). Men var dette faget i seg selv egentlig noe for meg? Vel, det måtte jo bare tiden vise.
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Takk til deltakerne som var positive til prosjektet!
En stor takk til Heidi Gilstad, som med sin stødige veiledning har holdt meg på rett kurs når jeg har hatt lyst å sette kursen mot fire retninger samtidig. Takk for tålmodigheten, og for konstruktive veiledninger som har gitt meg akkurat nok næring til å greie neste etappe!
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1. Introduction

1.1. Social media in the workplace

In my first couple of years as a communications adviser at a Norwegian university, I would encourage the researchers I worked with to be active on social media, such as Facebook and Twitter. The idea was that this would allow them to communicate research, and network with broader audiences in and outside of academia.
I was surprised that my enthusiasm received a mixed reception by my new colleagues. While some were indeed embracing the opportunities that Twitter and Facebook brought for professional communication, others met my idea with scepticism, or even rejection. With my background from news media and advertising, I was confused by the latter attitude. Surely, I thought, having a professional, active online presence would simply be incredibly useful for anybody working with knowledge and ideas?

Controversies regarding social media is not new. In debates surrounding political events, a recurring topic has been social media's influence on how people perceived truth, authority, and facts (McIntyre, 2018). When it comes to social media in academia and the professional workplace, some have supported the argument that social media can be beneficial for knowledge communication and networking (Farbrot, 2015; Heiden, 2019; Lee, 2019; Noorden, 2014). On the other hand, there is also opposition in the literature, particularly regarding the compatibility between scientific research, professionalism and the infrastructure of social media (Gierth & Bromme, 2020; Grande et al., 2014; Jain et al., 2014; Thompson et al., 2008).

I was manoeuvring between the conflicting positions on social media in my own workplace when I began my master's degree in applied linguistics in the professions, in which thesis is written. In my first year in the course, I was introduced to Iedema and Scheeres' article *From Doing Work to Talking Work: Renegotiating Doing, Knowing and Identity* (Iedema & Scheeres, 2003). Iedema and Scheeres' article held two messages that would influence to how I have come to view professional discourse[1]. Firstly, it points out how modern working life requires professionals to talk and otherwise communicate about their work outside the traditional boundaries of their professions or work sites; a phenomenon labelled "textualization" (Iedema & Scheeres, 2003), similarly observed by Bremner (Bremner, 2018, p. 35).

Although the 2003 article does not mention social media, I will argue that participating on social media has since become one aspect of textualization in the modern workplace. The other key message is that the implications textualization has for the individual depend on a variety of factors. This fitted well with my own experience, and with the discussions surrounding social media in the literature. Here in Iedema and Scheeres words:

> these phenomena (are) likely to produce a range of complex, unpredictable and sometimes incompatible outcomes. These outcomes are not inscribed into the new textualizing imperative in a straightforward way. Rather, they vary depending on the attitudes and the support shown by the team, by the peer group; they depend on the consequences of the textualization for practice, on the reach of associated changes, on the complexity of the task that is negotiated, and so on.
> (Iedema & Scheeres, 2003, p. 331).

[1] See Chapter 2 for a definition of discourse.

While I was still dabbling with the consequences of this way of thinking on writing in the workplace (Bremner, 2018) and social media, an event hit that would make the matter even more relevant: COVID-19. Social media became a hotbed for discussions related to the pandemic (Rovetta & Bhagavathula, 2020). At the same time, social media usage grew in the population, and Instagram grew in particular (Southern, 2020).

Instagram is likely mainly associated with photo sharing and lifestyle content, not professional communication[2] (Leaver et al., 2020). However, I noticed that in my own Instagram feed, some of the accounts that were suggested to me, were from medical professionals, who used their private accounts on Instagram to share medical content related to COVID-19. These medical professionals' practice of sharing content that was related to their professional field, on a platform that is not traditionally associated with medical communication, intrigued me – and it led me to the topic of this thesis.

1.2. Topic and research questions

In this thesis, I am encouraged by Cunningham (Cunningham, 2014) and Fenwick (Fenwick, 2014), who both discuss the implications of social media usage by medical professionals, and call for more research on the topic. My aim is to investigate three medical professionals' communication on Instagram during the pandemic, from perspectives in applied linguistics in the professions (Sarangi & Candlin, 2010). I am also informed by the view of language as both influenced by and influencing its social context (Gee, 2014).
I am also inspired by Sarangi's concept of *communicative expertise* (Sarangi, 2018), which, in short, describes the professional's ability to communicate their knowledge and skills appropriately in a given situation or context (Sarangi, 2018; see Chapter 3).

While Sarangi has primarily been concerned with communicative expertise within traditional professional or institutional settings, like the hospital (Sarangi, 2005), I am interested in exploring communicative expertise when it takes place on medical professionals' private Instagram, which is *outside* of the institutional setting, but where the creators are still presenting themselves in a professional role.
By this, I hope to provide some insights to the on-going discussion on the relationship between social media and modern professional practices (Cunningham, 2014; Fenwick, 2014; Gierth & Bromme, 2020; Grande et al., 2014; Jain et al., 2014; Thompson et al., 2008).

My research topic is therefore:

- *What characterises the communication by medical professionals on Instagram during COVID-19?*

In order to investigate this, I aim to answer the following research questions:

- *Which linguistic and communicative features do medical professionals apply to express what they know and believe in their communication of the COVID-19 vaccines on Instagram?*
- *By applying these features, what are they doing communicatively, and what does this say about their communicative expertise as medical professionals on Instagram?*

[2] Professional communication is described in Chapter 3.

2. Background

2.1. Instagram as an arena for professional communication

Instagram is perhaps not traditionally associated with professional communication for the health professions. However, a quick search of selected Instagram hashtags[3] I did in April 2023 revealed that the hashtag #doctor appeared 15 million times, #dentist 14 million times, and #nurse 12 million times. Social media is also included in reports and strategies by the WHO as important arenas to distribute information during and following the pandemic (WHO, 2023). From within the medical field itself, guidelines have been distributed on professional conduct for health professionals on social media in times such as the pandemic (Furstrand et al., 2021; Law et al., 2021; WHO, 2020a, Lægeforeningen (n.d.)).

The prevalence of topical hashtags on Instagram, as well as the signals from both health authorities and within the health sector itself, as described above, indicate that Instagram is becoming a place for communication on professional matters within health and medicine. Sarangi and Candlin emphasise how research in applied linguistics in the professions is about directing its focus towards "crucial communicative sites and at critical moments" (Sarangi & Candlin, 2010, p. 1). In my view, Instagram in the time of COVID-19 can be seen as exactly this.

2.2. Contextual dimensions

This thesis is informed by the theoretical framework of social constructivism (see Chapter 3). A central aspect of this framework is the sensitivity to context (Linell, 2001; Nordentoft & Olesen, 2014). An awareness of relevant contextual dimensions (Linell, 2001) is useful in order to get a grasp of the "communicative site" (Sarangi & Candlin, 2010, p.1) in which the participants of this study were operating. I will therefore present how social media can be defined and descriptions of its role in society; social media during the pandemic; and the "immediate context" (Linell, 2001, p.128) of Instagram.

2.2.1. Social media in society

A rather technical description of so-called social network sites (SNS) was provided by boyd and Ellison in the early days of Facebook in 2007, defining SNS[4] as

> web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system.
> (boyd & Ellison, 2007, p. 21)

In the years since, the influence of social media on society has gained attention. In 2013, media studies scholars van Dijck and Poell described how social media during its first decade had started to affect society on a structural level: "(S)ocial media platforms have penetrated deeply into the mechanics of everyday life, affecting people's informal interactions, as well as institutional structures and professional routines" (Van Dijck & Poell, 2013, p. 3). Social media, they claim, is following its own logic; a logic consisting of "programmability, popularity, connectivity and datafication" (van Dijck & Poell, 2013, p. 3), and, as a result, is "challenging existing social hierarchies or unsettling discursive orders" (van Dijck and Poell, 2013, p. 7).

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[3] See Chapter 4 for a description of hashtags.

[4] I will use "social media" instead of SNS.

With its today over 2 billion users, Instagram is the second most popular social medium, surpassed only by Facebook (Ruby, 2023a, 2023b). In their book "Instagram" from 2020, Leaver et al. give a description that sums up the complexity if the medium:

> Instagram is more than one thing: it is an app; it is a series of programs and algorithms; it is a gigantic database of images, videos, captions, comments, geolocative tags, location tags, likes, emoji and more and more items over time; it is a collection of personal data (…); it is a series of decisions and developments over time that create different versions of each of these things; and it also encapsulates various popular understandings of what Instagram 'is' to the more than a billion people who use it.
> (Leaver et al., 2020, pp. 7-8)

Literacy scholars Barton and Lee describe in their book *Language Online* how the implications of online and social media are context dependent: "different people would adopt technologies differently to suit their purposes in different contexts of use" (Barton & Lee, 2013, p. 3). This observation is similar to Iedema and Scheeres' reflections on the unpredictable implications of textualization for the individual (Iedema & Scheeres, 2013).

2.2.2. Social media and the Conversation of COVID-19

In a sense, social media is now "everything, everywhere, all at once", to quote the popular 2022 movie (Kwan & Scheinert, 2022). This particularly held truth during the pandemic of 2020-22. Confided, as we were, in our individual bedrooms, kitchens and living rooms, our social lives were relocated to take place in technological networks, brought to us by our assortment of screens. Activity on social media soon peaked, and Instagram was reported to be the platform with the biggest growth (Southern, 2020).

James Paul Gee has introduced the concept of "big "C" Conversations", describing "the public debates that swirl around us in the media, in our reading, and in our interactions with other people" (Gee, 2014, p. 72). According to Gee, "The themes and values that enter into Conversations circulate in a multitude of texts and media. They are the products of historical disputes between and among different Discourses." (Gee, 2014, pp. 73-74). (See Chapter 3 for an explanation on Discourse.)
COVID-19 can certainly be seen as an example of a Conversation, which also took place on Instagram. According to one study, a whopping 2/3 of Instagram users used the hashtags #coronavirus or #COVID19 in the first five months of 2020 (Rovetta & Bhagavathula, 2020). Discussions on the latest COVID-19 related research findings – topics that would otherwise take place in academic seminars and niche journals – found their way to Instagram and other open online spaces, where they were shared, commented upon, and scrutinized by people both inside and outside of the medical science community (Blankenship et al., 2021; WHO, 2021). At the same time, unverifiable statements about COVID-19 were spread on Instagram and other social media (Cinelli et al., 2020), constituting a real threat to many governments' strategies in handling the pandemic (WHO, 2021).

Sarangi has introduced the notion of "distributed expertise", describing how to the internet, and thus to information, has been a contributing factor to a tendency of so-called "lay-experts" challenging the expertise status of professionals (Sarangi, 2010, 2018). The amount of unverifiable messages that were communicated during pandemic can be said to be an example of this. In this environment, some seem to perceive social media as a battleground for the "truth", as expressed by Harvard philosopher Lee

McIntyre: "Social media has played an important role in facilitating post-truth, but again this is a tool rather an outcome (…) The electronic dissemination of information can be used to spread lies, but it can also be used to spread truth" (McIntyre, 2018, p. 82). It is this logic that seems to inform the WHO's response to what they labelled an "infodemic" (WHO, 2020b), described as "too much information including false or misleading information in digital and physical environments during a disease outbreak" (WHO, 2020b). In a "call to action", the organization provides guidance to health professionals and other actors on how to use social media to distribute trustworthy content, and they describe how they collaboration with major social media outlets to "provide access to accurate health guidance" (WHO, 2020a), in the attempt to counter harmful misinformation. This approach resembles Sarangi's description of so-called "expert communicative systems" (Sarangi, 2010, 2018): "expert systems which include organisational rules and regulations, aimed at standardisation, proceduralisation and routinisation of practice – often imposed by management" (Sarangi, 2018, p.382).

2.2.3. The context of Instagram and issues of trust

How we present ourselves, how we are perceived, and how we communicate with each other, depend on the context, and we rely on contextual cues to make sense of the interaction (Goffman, 1959). On Instagram, all content is presented within the same generic framework. A pretty picture of a cake can be followed by a video of a doctor giving advice, followed by a yoga studio's inspirational post on how to stay healthy. The usual contextual resources (Linell, 2001, p.128) – like whether you actually decided to pay a visit to a baker, a doctor or a yoga studio in the first place; the place you enter; signs and décor; or how you are greeted upon arrival – are replaced on Instagram, where the algorithms influence what you are exposed to (Leaver et al., 2020), and where it is presented as little squares on your screen. All types of content are presented in the same form – it all looks the same.

Each user of Instagram has their own context, which will influence how they interpret what they read, see and hear on the app (Linell, 2001). It is, of course, impossible to account for all these contextual factors at play for the individual Instagram user. However, an important concern for a large proportion of people during COVID-19, was: Who could one trust? A study with respondents from 11 countries showed that 67 percent of people worried about fake news and misinformation early in pandemic (Edelman Trust Barometer 2020 in Bunker, 2020). Sarangi addresses the fact that in a time where laymen have access to an abundance of information, we still rely on experts to make decisions (Sarangi, 2018)[5]. It is likely that for many, Instagram became an arena to look for trust-worthy sources when trying to make sense of the pandemic, and finding reliable information.

2.3. Previous research

This thesis is concerned with online language practices in a professional context, and written in a tradition where discourse is viewed as related to social practices (Gee, 2014) (see Chapter 3). In this section, I will present some relevant studies of language in digital contexts. I will then direct my focus to studies of online health communication. I have not been able to identify any relevant studies about Instagram. I will therefore present some studies of professional communication in other digital media. I will present

[5] See Chapter 3 for a description of the term "expert".

some relevant studies on online communication by patients and caretakers, and then I will present studies of health professionals' expertise in online settings.

2.3.1. Studies of language in digital contexts

The relationship between language online and the "social world" (Gee, 2008) provides the basis for the anthology "Analyzing Digital Discourse" by Bou-Franch & Blitvich (Bou-Franch & Blitvich, 2019). They introduce the term "digital discourse analysis", which they define as "concerned with how multimodal, multisemiotic resources are employed to enact identities, activities, and ideologies in the digital world, as part of a larger social world (Gee, 2005)" (Bou-Franch & Blitvich, 2019, p.4). The anthology provides a useful overview of the various perspectives employed by discourse analysts to investigate digital and social media. Discourse on social media has been studied by researchers concerned with the complexity of technologically advanced platforms and systems that mediate the offline and the online world (Bou-Franch & Blitvich, 2019; Herring, 2004, 2007; Petroni, 2019; Rudolf von Rohr et al., 2019). In order to gain insight into the relationships between digital texts (here understood as the written word (Ledin et al., 2019); see also Chapter 4) and the worlds in which they appear, the editors call for more "fruitful interconnections between digital discourse and critical discourse analysis" (Bou-Franch & Blitvich, 2019, p.11).

A central contribution on the topic of context for digital creators is provided by Marwick and boyd (Marwick & boyd, 2010). They have introduced the concept "context collapse" to describe how in the minds of authors on social media, disparate audiences seem to collapse into one (Marwick & boyd, 2010), and that authors on social media develop an "imagined audience" (Marwick & boyd, 2010) based on contextual cues in the electronic space. "The imagined audience exists only as it is written into the text, through stylistic and linguistic choices (Scheidt, 2006)" (Marwick & boyd, 2010, p. 116).

Despite all the modalities Instagram offers, the written word is prominent. It is relevant to mention that social media are commonly labelled "microblog services" (Passant et al., 2008), describing the many similarities between blogs and social media. This has particularly to do with the accessibility of the platform, and the lack of editorial control, distinguishing blogs/microblogs from the traditional press (Omdal et al., 2013). The centrality of written language in the multimodal blog format, was observed by Greg Myers in his study of language in blogs and Wikis from 2010 (Myers, 2010, p. 4). His study provides useful insight on the language in blogs when it comes to intertextuality, time and place, reader engagement and author stance, opinions and evidence. According to Myers, "(b)y studying language, we can take a step back (or perhaps a step closer) and look intensely at how they say things, as well as what they say" (Myers, 2010, p. 4).

Language is also the focus of literacy scholars David Barton and Carmen Lee's book *Language Online* (Barton & Lee, 2013). They argue that technological change and online communication has not only challenged central concepts and perspectives within sociolinguistics (Barton & Lee, 2013, p. 3), but that online communication is also related to new social practices (Barton & Lee, 2013, p.11–12). Barton and Lee investigate language in online settings in relationships to topics such as multilingualism, education and identity, providing examples from digital platforms like Facebook and Instagram's predecessor Flickr.

They point out that online media provide users with the ability «to constantly display, construct, perform, shape and reshape different senses of the self online through linguistic means» (Barton & Lee, 2013, pp. 84-85). Online communication, they

summarise, leads to, among other things, new and inventive uses of language, and new "vernacular practices" (Barton & Lee, 2013, pp. 140-141).

2.3.2. Studies of health communication online by non-experts

Research on online health communication has paid a great deal of attention to the discourse of patients, caretakers or other external stakeholders in online health encounters. Several studies have focused on online communities for patients or caretakers (Bellander & Landqvist, 2020; Das, 2018; Hunt, 2015; Lee, 2017).
The discursive construction of medical expertise by non-professionals has also received some attention. Bellander et.al investigated the relationship between online identity construction and medical knowledge-building in parents who blog about their children's heart defects (Bellander et al., 2018). They defined that the parents constructed different discoursal identities online, related to the topics they were writing about (Bellander et al., 2018).
In another study of parents of children with heart defects, Karlson & Landquist compared the traditional medical consultation with online texts written by parents in forums and blogs (Karlsson & Landqvist, 2018). They found that «writing is used in untraditional and dialogical ways» (Karlsson & Landqvist, 2018, p. 2), and that «expert roles are negotiated in each situation, and the limits of specialist knowledge are blurred» (Karlsson & Landqvist, 2018, p. 2) between parents and doctors in the consultation. The authors encourage communication researchers to be sensitive to the «dynamics and networks involved when making specialist knowledge relevant to real life situations» (Karlsson & Landqvist, 2018, p. 2).

2.3.3. Studies of health professionals' expertise in online settings

The construction of expertise on behalf of health professionals seems to have received less attention in the literature on health and online discourse. A study worth highlighting is Rudolf von Rohr et al.'s analysis of the linguistic creation of expertise in different online health services (Rudolf von Rohr et al., 2019). This study draws attention to an online advice column, email counselling, and quit smoking-forums and websites. They base their understanding of expertise as constructed "by referring to other informational sources, referring to one's professional status, listing numerical facts, displaying empathy, using humour, and mobilizing personal narratives" (Rudolf von Rohr et al., 2019, p.219). In the study, they find that expertise is also created in the online contexts analysed by the expert advice being "embedded" in the online setting (for example an official website), that strategies act together, and that strategies depend on the interactivity of the medium. Lastly, expertise creation is not only exclusive to professionals, but is also created by laypeople and clients (Rudolf von Rohr et al., 2019). The authors write: "In future research, the question of how authority, credibility, and the potentially resulting trust are intertwined bears further scrutiny" (Rudolf von Rohr et al., 2019, p.246).

The transformation of a medical practice from the analogue to the digital is the focus of Hilde Berg Nesse's MA thesis from 2020. She explores the transformation from the analogue to the digital in studying the popular Norwegian school nurse "*Helsesista*"'s account on Snapchat. Nesse finds that the Snapchat practice constitutes a hybrid between traditional and social media practices. She describes this as leading to "a change in the anatomy of the social practice" (Nesse, 2020, p. II).

How medical doctors present themselves to online audiences, meeting expectations for both information and entertainment, is the topic of a recent study by Atef et al. (Atef et al., 2023). Building on Goffman's concept of "facework" (Goffman, 1967 in Atef et al., 2023), the study explores how 12 Egyptian doctors present themselves in "vlogs" on YouTube and Facebook. Through interviews of the doctors and by critical discourse analysis (Fairclough, 2003 in Atef et al., 2023) of the vlogs, the study shows that the doctors performed four "faces" in their vlogs: an approachable face, a knowledgeable face, a pedagogical face, and a popular face, and that they were sometimes strategically switching between faces (Atef et al., 2023). Previous studies have discussed potential challenges faced by doctors who do identity work on social media in meeting with the demands of diverse audiences (Lieberman & Schroeder, 2020 and Turkle, 2016; in Atef et al., 2023). This study shows that the doctors master a "skillful *(sic!)* and largely tension-free impression management" (Atef et al., 2023, p. 2681) in their social media activities.

3. Theoretical framework

I will now explain the theoretical foundation of this thesis, namely social constructivism, interactionism and dialogism. I will also establish what I mean by discourse, professional communication and professional communicative expertise. In order to answer the research questions, it is necessary to conduct an analysis that allows for an exploration of the Instagram texts which can provide insight into the relationship between text and its broader context. I will therefore present James Paul Gee's critical discourse analysis (CDA) (Gee, 2014), before I move on to present some key analytical concepts that inform the analysis in Chapter 5. I will introduce Myers' concepts of evidentiality, hearsay and belief (Myers, 2010); Hyland's model of stance and engagement (Hyland, 2005); and Gee's "building tools" for CDA (Gee, 2011).

3.1. Social constructivism, interactionism and dialogism

This study draws on *social constructivist* and *interactionist* perspectives, which are useful to explore how language is learned, used, and understood in different social contexts (Nordentoft & Olesen, 2014). Both these perspectives can be understood in contrast to a naturalist perspective, in which texts are seen to "reflect reality, and therefore can be used to validate specific information" (Mik-Meyer & Järvinen, 2005, p. 20, my trans.). Instead, social constructivism and interactionism are based on the idea that there is no "objective reality" of actions and phenomena. A text will not have a "fixed meaning" in and of itself; rather, the researcher's objective is to seek an understanding of "how meaning is created in the production and use of texts in different social contexts" (Phillips & Schrøder, 2005, p. 275, my trans.). This means that attention is paid to "how the text portrays specific representations of reality, rather than whether the text contains true or false descriptions of the world" (Silverman, 2005, p. 160 in Phillips & Schrøder, 2005, p. 275, my trans.).

The theoretical concept *dialogism,* which is attributed to the Russian philosopher Mikhail Bakhtin, has been influential on discourse studies within the social constructionist paradigm (Holquist, 2002). According to Bakhtin, human existence itself is being in a constant dialogue between people and voices; with each other and with the context surrounding us. Meaning is not created in single utterances, but the exchange of ideas, perspectives and voices, and speakers and writers are both participating in a larger "chain of utterances" (Bakhtin, 2005, p.11, my trans.) and expecting response to their utterances (Bakhtin, 2005). Central to this is the concept of intertextuality, which refers

to how texts are always influenced by other texts, in a continuous dialogue (Bakhtin, 1973 in Dysthe, 1997).

3.2. Discourse, professional communication and communicative expertise

3.2.1. Discourse and professional communication

The term *discourse* is used to refer to the use of language in spoken and written contexts, and is applied both in terms of smaller sequences of language, and in broader contexts (Gee, 2014). Gee distinguishes between these by labelling the former "discourse with a small d" (Gee, 2014, pp. 51-52), and the latter Discourses with a capital D, describing

> socially accepted associations among ways of using language, of thinking, valuing, acting, and interacting, in the "right" places and at the "right" times with the "right" objects (associations that can be used to identify oneself as a member of a socially meaningful group or "social network").
> (Gee, 2014, pp. 51-52).

According to Gee, the context informs how we make meaning of what is written or said, however with language, we also create contexts (Gee, 2011, p. 84). (I will go into more detail on this in chapter 3.4.)

When narrowing our focus to the concept of professional discourse, it is useful to look to communication researcher Stephen Bremner. According to Bremner "every profession, discipline, group, organisation and so on has its own way of doing things and of speaking and writing about them" (Bremner, 2018, p. 21), and this is connected to the culture and goals of the workplace (Bremner, 2018). He points out that for many professionals, including the medical professions, communicating to laypeople is a central aspect of professional communication (Bremner, 2018, p.14). Bremner is particularly concerned with genres and "discourse communities" in this respect, and does not distinguish between discourse and Discourse (Bremner, 2018). However, like Gee, Bremner operates with a view that "language and community have an interlinked, mutually constitutive relationship" (Bremner, 2018, p. 11). Informed by Bremner's description of writing in professional settings, I use the term "professional communication" when referring to language use by a professional that has some relationship to their professional context, including communication that takes place outside of the traditional institutional context.

3.2.2. Professional communicative expertise

Experts need to communicate in their professional role in a range of different contexts and to a variety of groups and individuals (Sarangi, 2010). Communicating as a physician on Instagram during a pandemic is an example of this. A key concept in this thesis is *communicative expertise*. Coined by Srikant Sarangi (Sarangi, 2010; Sarangi, 2018), the term is developed from what he defines as three aspects of expertise: "scientific knowledge; experience in a field of practice; pattern recognition; and acknowledgement by others" (Sarangi, 2018, p. 383). The combination of the expert's theoretical knowledge within their field, their practical experience, and the ability to communicate adequately in a given context is what Sarangi labels communicative expertise. This is "not only knowledge/skill about the mechanics of communication but also the channels through which the other types of knowledge/skill (…) are communicated in real-life settings" (Sarangi, 2018, p. 387). In other words, communicative expertise is context dependent, and Sarangi points out that it also includes "empathy, affect, compassion etc. at an interpersonal level" (Sarangi, 2018, p. 374).

Trust is a central aspect of professional communication and communicative expertise (Candlin & Crichton, 2013; Sarangi, 2018). According to Candlin and Crichton "in an increasingly complex world, trust provides the primary way of reducing people's experience of risk and uncertainty by enabling those who trust to minimise doubts they might otherwise have in the trustworthiness of others" (Candlin and Crichton, 2013, p.2). Trust affects the relationship between the one seeking advice and the expert providing it. Building on Gurviez, Halliday and Catulli state that:

> Trust supposes an interdependent relationship, when one of the partners has to engage without being sure of the outcome. His decision is based on the estimation of his interest tied up with the other party's attitude or behaviour, plus a subjective feeling of security, which is embedded in the social context. (Gurviez, 1997, p. 508, quoted in Halliday & Catulli, 2013, p. 303).

Bourne points to "vulnerability, risk and expectations" (Bourne, 2013, p. 167) as features of those seeking advice, and argues that: "Those who possess these characteristics are placed in an asymmetrical relationship with actors able to address them" (Bourne, 2013, p.167).

3.3. Gee's critical discourse analysis: Language as a tool for "being" and "doing"

In this thesis, I will investigate medical professionals' professional communicative expertise (Sarangi, 2018) in two contextual dimensions: on Instagram, and in the broader Conversation (Gee, 2014) of COVID-19. One useful theoretical and methodological approach when seeking such an understanding of the relationship between language and context, is critical discourse analysis (CDA). In CDA, language use and meaning are related to historical, cultural and institutional factors, and there is a mutual relationship between language and the context in which it appears. On the one hand, language shapes meaning, power relations and our understanding of society; on the other, society and cultural factors shape how we use language (Phillips & Schrøder, 2005; Gee, 2011).

While there are several different strands of CDA, this thesis is informed by the CDA developed by James Paul Gee (Gee, 2011; 2014). According to Gee, "all discourse analysis needs to be critical, not because discourse analysts are or need to be political, but because language itself is, as we have discussed above, political" (Gee, 2011, p.9), by which he means that language is highly linked to distribution of what he calls "social goods" (Gee, 2011; 2014) (see more on social goods and Gee's building tasks below).

Building on Austin (Austin, 1975, in Gee, 2014), Gee points out that we do three things with language – we are "saying, doing, and being. When we speak or write we simultaneously say something ("inform"), do something (act), and are something (be)" (Gee, 2014).
"Doing things" with language is, according to Gee, how "we build and sustain our world, cultures, and institutions" (Gee, 2014, p.10): "We promise people things, we open committee meetings, we propose to our lovers, we argue over politics, and we "talk to God" (pray)" (Gee, 201, p.2).
Language also allows us to "be" different things. We all have different identities in different situations, but who we "design ourselves to be" (Gee, 2014) affects how we are interpreted by others. These contextual factors all work together to create what can be seen as a *social identity* (Gee, 2011; 2014). In writing, we are not only presenting our

social identity, but we are also communicating with the readers. On social media, we tailor our language according to the "imagined audience" (Marwick & boyd, 2010) – who we "take our recipients to be" (Gee, 2014, p. 21), and "we try to "position" others to be and do what we want them to be and do" (Gee, 2014, p. 21) in the way we write. Gee points to seven different things we do with language, and proposes the building tools as a method to examine how language is used to "build things in the world" (Gee, 2014, p. 31). I will elaborate on these tools in 3.4.3.

Ken Hyland has provided a model of different ways that writers "take a stance", or position themselves in text, and try to engage and position their readers (Hyland, 2005). Hyland builds upon Bakhtin's theory of dialogue when describing what he calls an interaction between the writer, the reader and the context (Hyland, 2005). He describes stance as "an attitudinal dimension and includes features which refer to the ways writers present themselves and convey their judgements, opinions, and commitments" (Hyland, 2005, p. 276). I will describe some relevant concepts from this model in 3.4.5.

3.4. Central analytical concepts

3.4.1. Evidentiality

My focus in this thesis is on how the Instagram writers mark what they know and believe related to the COVID-19 vaccine. I am inspired by Greg Myers' substantial study of blogs and wikis, in which he, similar to Gee, is concerned with the relationship between language and society (Myers, 2010). Like Gee, Myers sees language as a tool for doing: "Among these issues are the ways we use language to locate ourselves, to state facts, to argue and to define ourselves in relation to other people" (Myers, 2010, p.3).

One of Myers interest in the blog- and wiki-study is how bloggers "mark what they know and what evidence they have for what they believe" (Myers, 2010, p.114). This marking of evidence is called *evidentiality markers* (Myers 2010). Evidentiality is related to the concept of epistemology, "the branch of philosophy studying how we know what we know. But we all deal with epistemological issues in our everyday lives, and epistemic stance concerns the marking certainty and uncertainty about the factual basis for statements» (Myers, 2010).
Myers uses Chafe's description of "four 'modes of knowing': induction (…), deduction (…), hearsay (what others have said) and belief (what one just knows)" (Chafe, 1986 in Myers, 2010, p. 115). In this thesis I will focus my attention on the two latter categories: belief and hearsay/reported speech, and I will present these below.

3.4.2. Belief

Building on Chafe (Chafe, 1986 in Myers 2010), "belief" in Myers' description is a statement presented in a direct manner without any reference to the source, although this does not necessarily mean that the claim is unsupported by evidence (Myers, 2010). This is related to the writer's commitment to the preposition. Commitment has been defined as "essentially a speaker's attitude towards the truth of some propositional content" (De Brabanter and Dendale, 2008, in Larjavaara, 2017, p. 338).
According to Larjavaara, "It is assumed that when there is no reason to believe something else and no special evidential marking, the asserting speaker is committed to the truth of his/her assertion. When evidential marking appears, the degree of commitment diminishes" (Larjavaara, 2017, p. 341).

3.4.3. Hearsay / reported speech

When the Instagram author attributes a statement to somebody else, this falls into the

category “hearsay” (Myers, 2010), which others have called “reported speech” (Matoesian, 2000). I have chosen to distinguish between “hearsay” and “reported speech”, as I find that these linguistically give associations to two slightly different phenomena. As “hearsay” I categorise statements that are attributed to unnamed sources, whereas “reported speech” is used for statements that the author attributes to named sources.

3.4.4. Gee’s building tools

In order to investigate the research question, my aim is to investigate what the authors are “doing, not just saying” (Gee, 2011) when they communicate facts about COVID-19 on Instagram. In order to do this, I find Gee’s “seven building tools” for language to be useful (Gee, 2011).
The first of Gee’s seven building tools is *significance* and deals with how language is used to make things more or less significant in a given utterance.
The second building tool, *activities* or *practices*, tells us “how people are building a socially recognizable activity” (Gee, 2011, p.103) through language.
The *identity* building tool is useful in investigating which “socially recognisable identity” (Gee, 2011, p. 110) we are creating by speaking or acting a certain way.
The fourth building tool focuses on how we build *relationships* between ourselves and “other people, social groups, cultures, and/or institutions” (Gee, 2011, p.115) through language.
The *politics* building tool is used to “build what count as social goods” (Gee, 2011, p. 121). Not to be reduced to “party politics”, allow me to use Gee’s explanation to elaborate on what he means with this: “Social goods are potentially at stake any time we speak or write in a way that states or implies that something or someone is “adequate,” “normal,” “good,” or “acceptable” (or the opposite) in some fashion important to some group in society or society as a whole” (Gee, 2014, p. 34). Also, according to Gee, “discourse analysis can illuminate problems and controversies in the world. It can illuminate issues about the distribution of social goods, who gets helped and who gets harmed” (Gee, 2014, p. 9).
The *connections* building task focuses on how we use language to make things “relevant to each other (or not)” (Gee, 2011, p. 126).
The *sign systems and knowledge tool* helps us investigate how “words and grammar being used privilege or de-privilege specific sign systems (e.g. Spanish vs. English, technical language vs. everyday language (…)) or different ways of knowing and believing or claims to knowledge and beliefs” (Gee, 2011, p. 136).

3.4.5. Stance and engagement

Ken Hyland has developed a model for investigating stance and engagement (Hyland, 2005). Originating in his study of academic texts, this model is useful when investigating stance and engagement in professionals’ texts on Instagram.
Stance markers in texts, according to Hyland, are hedges, boosters, attitude markers and self-mention (Hyland, 2005, p. 177).
Engagement is “an alignment dimension where writers acknowledge and connect to others, recognizing the presence of their readers, pulling them along with their argument, focusing their attention, acknowledging their uncertainties, including them as discourse participants, and guiding them to interpretations” (Hyland, 2005, p. 276).
Linguistic markers of engagement are "reader pronouns, personal asides, appeals to shared knowledge, directives, questions" (Hyland, 2005, p. 182).

I will apply Hyland's categories when analysing what the writers "do" (Gee, 2011) in their written texts on Instagram.

4. Method

This thesis is inspired by my interest in the relationship between Instagram and professional communication, in particularly communication on Instagram by medical professionals during COVID-19. I have chosen to approach this topic by first analysing the linguistic and communicative features that three medical professionals apply to express what they know and believe in their communication of the COVID-19 vaccines on Instagram, for then to investigate what this can say about their communicative expertise.

In the following, I will first comment on some of the terminology in this thesis, before I give a short presentation of Instagram.
I will then describe the research method I have chosen in order to investigate this, which is a qualitative case study of documents and critical discourse analysis (Gee, 2014).
I will present the selection criteria for my sample, which is 15 posts by 3 medical professionals who were writing about the COVID-19 vaccine on Instagram during the pandemic.
Last, I will address some ethical considerations.

4.1. Terminology in this thesis

Although the word "document analysis" is commonly used to describe my chosen methodology, I choose the terms "text" and "document" interchangeably in this thesis, as I think "text" more aptly describes the kind of Instagram documents/texts I am studying. In the instances where I mention an image or other visual elements, which are in some cases called texts in discourse research (Ledin et al., 2019), I use the word "image", to distinguish it from my main focus: the written word.
For clarity, I will use the terms "IG writer" or "writer" to refer to the authors of the Instagram posts (the medical professionals). I use the term "reader" to describe the users/readers who are not the authors of the post, but who have access to them on Instagram.

4.2. Instagram

I will now present how Instagram is used (from the perspective of the user):
Upon opening the app, posts and corresponding captions are presented top-down, filling the smartphone's screen (*figure 1*). More posts are accessed by scrolling down.
By clicking on a username, one will access the writer's profile (*figure 2*) and gain access to other posts by that writer (*figure 3*).
An Instagram post needs to consist of an image or a video with or without sound, and a caption with minimum 1 and maximum 2,200 characters.
Topical hashtags act as links to other posts marked with the same hashtag.
Stories are located horizontally as circles on the top of the screen and are available for 24 hours.
Users can comment on posts, "tag" other users in the comments section, or send private messages (DM).
For a detailed description of Instagram, see for example Leaver et al. (Leaver et al., 2020).

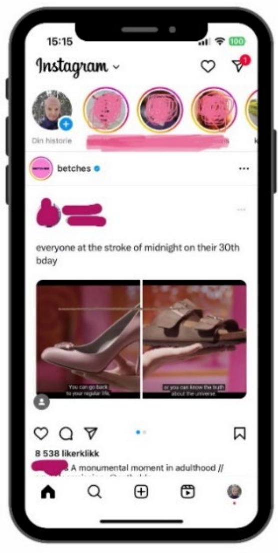


FIGURE 1: Instagram viewed when opening the app.

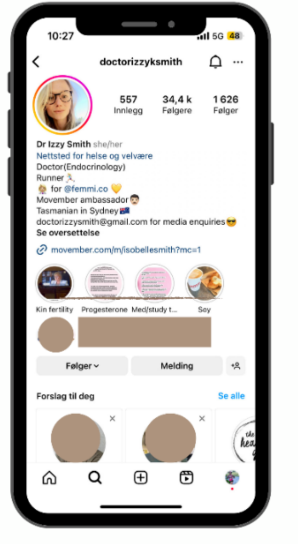


FIGURE 2: User profile.

FIGURE 3: Posts as they appear on a IG user's page.

4.3. Methodological considerations

4.3.1. Qualitative document analysis

In research, documents can be viewed as sources that provide knowledge of certain topics, or the documents themselves can be viewed as a topic (Prior, 1998, 2003; Smith, 2001; May, 2003 in Mik-Meyer, 2005). It is the latter view that I apply in this thesis, in which I seek to understand Instagram in a professional context within the theoretical framework of social constructivism and interactionism.

I seek to connect what the IG writers are doing in their IG texts with the topic of their communicative expertise (Sarangi, 2018) in the broader context of the pandemic. In this respect, I found Gee's CDA useful, with its attention to the mutual relationships between discourses, Discourse and Conversations. Based on the view that we can investigate what writers are *doing* by analysing language in it context, I have chosen Gee's CDA, as this provides a concrete methodology for carrying out the analysis (Gee, 2011; 2014).

4.3.2. Selection criteria

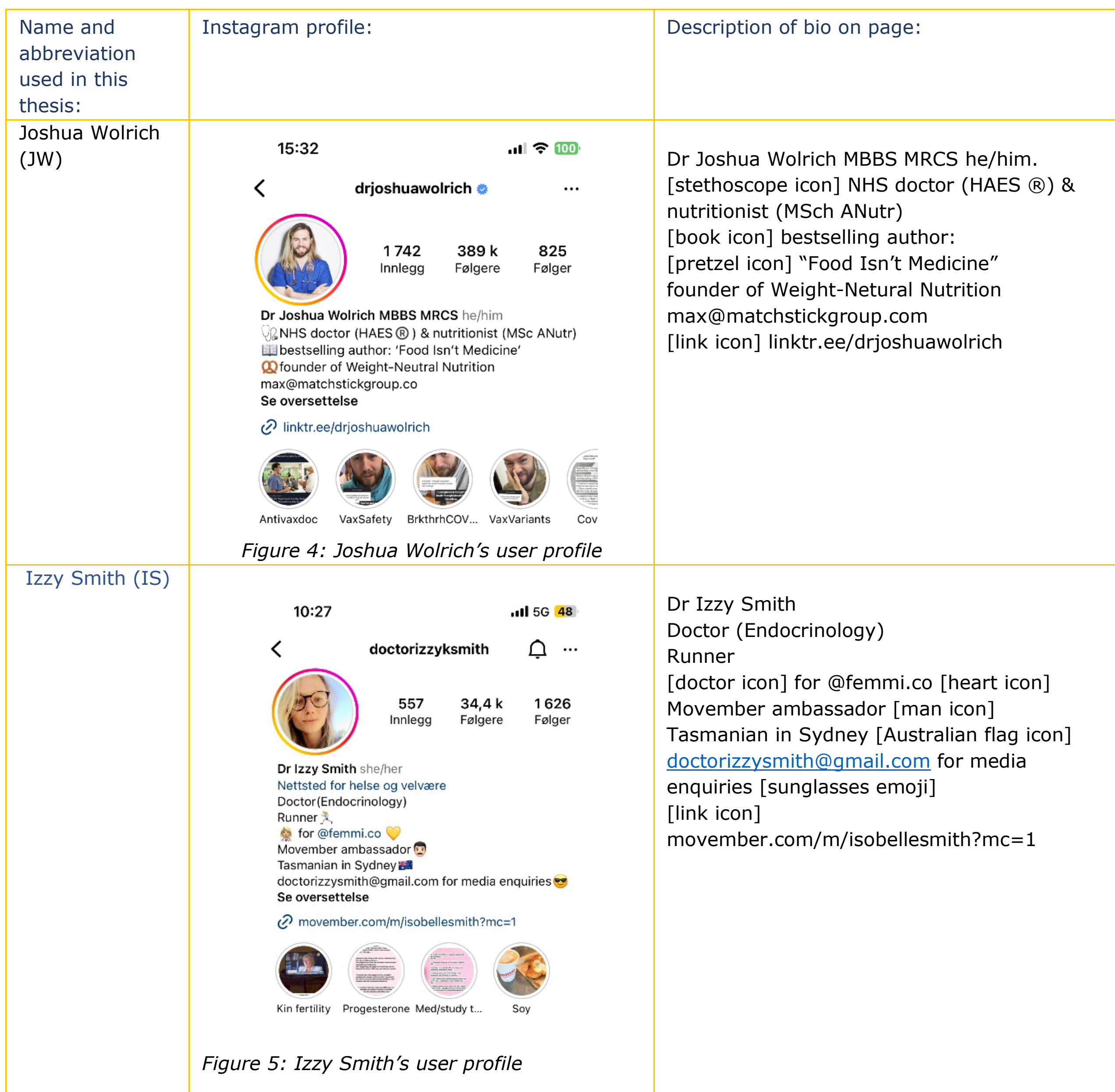
I approached the project with an open mind. My starting point was that I wanted to examine Instagram texts published by medical professionals that were related to the COVID-19 vaccine. I wanted to investigate more than one case, as although one can not draw general conclusions from a small, qualitative study (Skilbrei, 2019), I was curious as to whether there were some topics that emerged across the sample.
I decided to investigate posts by three writers who presented themselves as medical doctors under their real name on their IG "biography" page, allowing me to confirm their professional status; and who had posted content related to COVID-19 which I considered to be in line with the messages from official health authorities, in other words that they were writing positively about issues like vaccination, social distancing and science.

I conducted a search on Instagram's search function on the tags #covid19, #covidscience and #covidvaccine to find posts on these topics. I explored the writers and

commentators of these posts to look for potential participants, and identified three who fit my criteria.
The sampling method can thus be said to be a combination of purpose and convenience (Nygaard, 2017). Had I approached this study with a particular topic in mind, I would have had stricter criteria, however since I was interested in exploring the phenomenon, I found this a suitable method.

Research on social media brings with it a number of considerations regarding the privacy of the participants (Skilbrei, 2019). The project was approved by the Norwegian Data Protection Agency (SIKT, n.d.) on April 24th, 2022. I have also been in contact with the participants, who all gave positive feedback (see appendix). See Chapter 4.5. for a further discussion on ethics.

I succeeded in identifying three IG users who met my criteria.
Below is a presentation of their respective Instagram pages and the biography ("bio") text on the page:



Name and abbreviation used in this thesis:	Instagram profile:	Description of bio on page:
Joshua Wolrich (JW)	*Figure 4: Joshua Wolrich's user profile*	Dr Joshua Wolrich MBBS MRCS he/him. [stethoscope icon] NHS doctor (HAES ®) & nutritionist (MSch ANutr) [book icon] bestselling author: [pretzel icon] "Food Isn't Medicine" founder of Weight-Netural Nutrition max@matchstickgroup.com [link icon] linktr.ee/drjoshuawolrich
Izzy Smith (IS)	*Figure 5: Izzy Smith's user profile*	Dr Izzy Smith Doctor (Endocrinology) Runner [doctor icon] for @femmi.co [heart icon] Movember ambassador [man icon] Tasmanian in Sydney [Australian flag icon] doctorizzysmith@gmail.com for media enquiries [sunglasses emoji] [link icon] movember.com/m/isobellesmith?mc=1

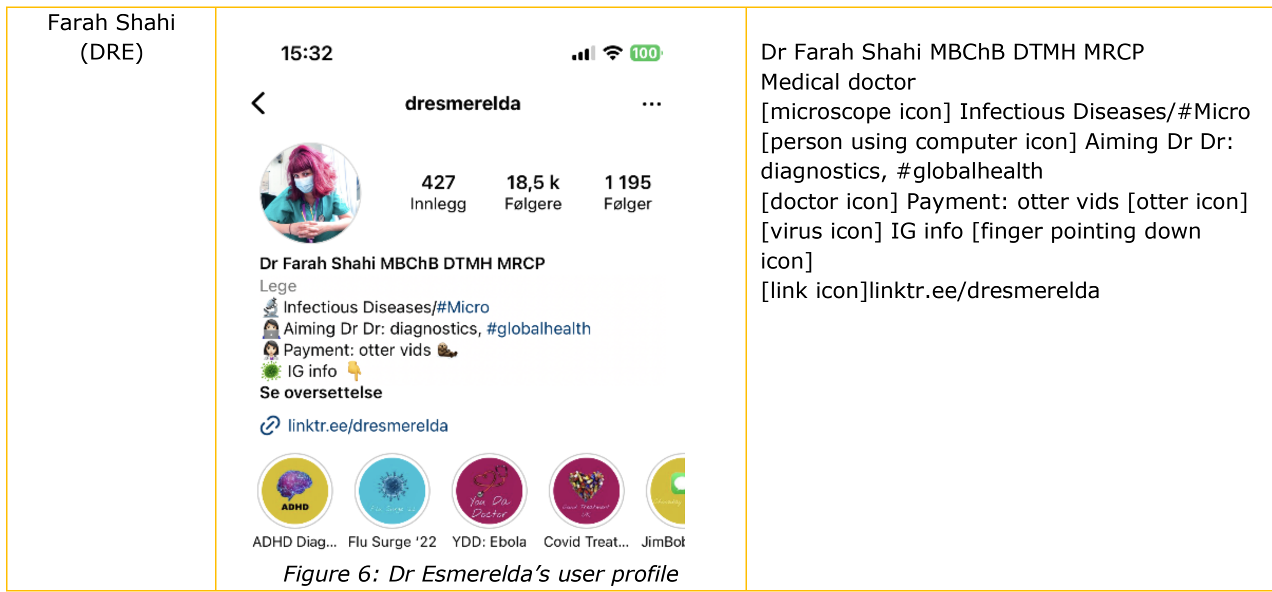
<table>
<tr>
<td>Farah Shahi (DRE)</td>
<td>


Figure 6: Dr Esmerelda's user profile
</td>
<td>Dr Farah Shahi MBChB DTMH MRCP
Medical doctor
[microscope icon] Infectious Diseases/#Micro
[person using computer icon] Aiming Dr Dr: diagnostics, #globalhealth
[doctor icon] Payment: otter vids [otter icon]
[virus icon] IG info [finger pointing down icon]
[link icon]linktr.ee/dresmerelda</td>
</tr>
</table>

Table 1: Description of participants

All three regularly publish content related to health and medicine, and Dr Joshua Wolrich and Dr Izzy K. Smith also publish posts of a more personal character. However, in my analysis, I have focused on content related to COVID-19.

4.3.3. Data selection

In the start of the project, I planned to investigate IG content related to the COVID-19 vaccines. I therefore selected posts published from January 2021, as this was when the first vaccines were rolled out. The data selection ended in February 2022 when my analysis started.

For practical reasons I selected posts consisting of images and captions, but I excluded stories and videos.

The three writers had published 49 (IS), 96 (DRE) and 98 (JW) posts respectively in the time period. I identified that 27 (IS), 45 (DRE) and 17 (JW) of these were in some way addressing the COVID-19 vaccine.

Given the scope of the thesis, and my interest in balancing between going in depth and exploring potentially recurring topics, I selected 5 posts dealing with COVID-19 from each participant, a total of 15. Since I was interested in exploring the posts with an open mind, I had no particular selection criteria at thispoint for which 15 posts I would select, other than the fact that each post had to be related to the COVID-19 vaccine. I therefore decided to select these posts randomly. I numbered the posts of the respective writers, and used Research randomizer (https://www.randomizer.org/) to select 5 posts dealing with the COVID-19 vaccine from each writer.

Username	Posts in total 1.1.21-1.2.22	Posts related to the COVID-19 vaccine 1.1.21-1.2.22	Post related to the COVID-19 vaccine selected by random selection
Drjoshuawolrich	98	17	Posts no 1, 17, 12, 15, 16
Dresmerelda	96	45	Posts no 18, 25, 31, 34, 43
Doctorizzyksmith	49	27	Posts no 5, 14, 17, 19, 23

Table 2: Description of data selection

4.3.4. Selecting the written word as my focus

Another methodological consideration has been how to approach a multimodal media such as Instagram, consisting of images, films, text, emojis, hashtags, comments, bio-pages, direct messages, etc, and which is continuously changing and developing. However, Instagram is also "a space for language" (Barton & Lee, 2013, p. 29). Informed by this view, and inspired by Myers' study of blogs (Myers 2010), I have conducted an analysis of the written word, which is presented in some cases on the images, in other cases in the captions, and in other cases both places.

4.3.5. Developing the research question

I started the project reading the Instagram texts I had selected with an open mind. I explored different potential categories, wrote memos, colour coded words and statements in Word, and coded the data in NVivo. I highlighted what I found interesting, however in order to develop a direction for my study, I found it helpful to apply existing empirically based theories in this phase.
I was particularly informed by Myers' analysis of stance and evidentiality in blogs (Myers, 2010) and Hyland's model of stance and engagement (Hyland, 2005).
My approach to the data were as such a combination of an empirical, inductive approach and a theory-based, deductive approach (Skilbrei, 2019).
The use of existing theories driving the analysis is described by Braun and Clarke as theoretical thematic analysis (Braun & Clarke, 2006). They describe this as a useful approach when the aim of the analysis is to "(go) beyond the semantic content of the data" (Braun & Clarke, 2006, p. 84), which is the case here.

Since I wanted to investigate Instagram texts written by medical professionals from the perspective of applied linguistics in the professions, I decided to zoom in on posts or excerpts of posts that I found were closely related to their professional role, and which were also related to both my professional interest in social media for professional communication, and the current discussion on health communication on social media (Furstrand et al., 2021; Law et al., 2021; WHO, 2020a). This narrowed my focus to exploring how the writers communicate medical information related to COVID-19. Inspired by Myers' research on blogs (Myers, 2010), I therefore decided to investigate

how the writers “mark what they know and what evidence they have for what they believe” (Myers, 2010, p.114) when they write about COVID-19 vaccination.

I isolated the instances in 13 of the 15 posts which I identified as “communication of knowledge and belief on the topic of the COVID-19 vaccine” (2 posts had no such instances).
These considerations led me to my research questions, which can be useful to repeat here:

- *Which linguistic and communicative features do medical professionals apply to express what they know and believe in their communication of the COVID-19 vaccines on Instagram?*
- *By applying these features, what are they doing communicatively, and what does this say about their communicative expertise as medical professionals on Instagram?*

4.3.6. Selection of posts and excerpts in the report

A methodological challenge has been how much of each of the Instagram posts to include in this report. A dilemma arose between how much of the context I could include, vs still being able to complete a detailed analysis within the scope of this thesis. A very narrow focus – for example on sentence level – would exclude important contextual factors. However, contextual factors are just about endless, so I had to draw the line somewhere. I could have analysed the posts in their entirety; however this would have introduced the risk of losing focus of my research question. Other alternatives were to only focus on only one or two writers; I could have conducted a narrow analysis of just one type of evidentiality marker; I could have chosen to focus on fewer of Gee’s building tasks (Gee, 2011); or I could have picked smaller excerpts and presented more or all of the 13 IG posts in my final report.

A point here was that I was interested to see if I could identify any recurring topics across the sample. A relatively broad scope would give me a better opportunity to look for such topics. I also wanted to utilise all of Gee’s seven building tools, as I believed this would provide a detailed, informative and transparent analysis. I therefore decided to provide examples of the evidentiality markers I identified, provide some context, and to represent all three writers in the report.

In some cases, communication of knowledge/belief constitutes the majority of the post. In these cases, I have included the posts in their entirety in the report. In other cases, the communication of knowledge/belief was a smaller part of a post. In these cases, I have provided excerpts and a description of the context.

Since I have found that there are some phenomena that appear across all the three writers, and for the sake of keeping within the word length, while at the same time allowing for a detailed presentation of the different types of evidentiality markers I have identified, I have chosen to present a cross-case description of the categories listed above, rather than a case-by-case presentation (Yin, 2014, p. 184).
The entire dataset is available in the appendix.

4.4. Ethical considerations

Research on social media brings with it a number of considerations regarding the privacy of the participants (Skilbrei, 2019). The three medical professionals I have selected all

have public profiles on Instagram, accessible to all Instagram users, and appear under their full names. They have between 18 000 and 380 000 followers. One can therefore consider their Instagram profiles and posts as publicly available. The project was approved by the Norwegian Data Protection Agency (SIKT, n.d.) on April 24th, 2022 on the condition that I only reported on information that the IG writers have made available to the public, and that the IG writers were informed about the project. I contacted the IG writers via email in May 2022. All three replied positively to the project (see appendix).

My own personal context as well as the theoretical perspectives that inform this thesis will influence my analysis and interpretation (Holliday, 2007) (Skilbrei, 2019). Qualitative research within a social constructivist and interactionist perspective requires particular sensitivity of these contextual factors. I will therefore address some relevant aspects of my own position. Communication of knowledge on social media has been my professional interest for several years, and I might carry "tacit knowledge" (Sarangi, 2019) or assumptions that I am not aware of regarding this practice. I am also an active Instagram user, and during COVID-19, I adhered to the guidelines and messages from the WHO and other medical authorities. I can be said to be positively inclined towards the practice of using Instagram for professional communication in the sciences. In working with this thesis, however, I have attempted to approach the research questions with an open mind, and to be aware of and critical to my own assumptions and ideas.

Validity is a critical aspect of qualitative, interpretative research, and in this context, validity is related to communicating the background for why I have made the interpretations I have (Kvale, 1996 in Phillips & Schrøder, 2005). Ultimately the analysis is my interpretation, based on my own context. There will be things I have missed, and other possible interpretations than the ones I have made. I have provided as much of the background material as possible, and I have attempted to make my methodology transparent, in order to describe how I have arrived at my interpretations (Phillips & Schrøder, 2005). I have also provided the participants with a summary of the thesis, allowing for their comments. (See appendix.)

Providing health advice on social media brings with it degrees of legal, medical and ethical challenges for the medical professionals participating in such practices. These discussions are outside the remit of this thesis.

See Chapter 7.2. for a discussion on the limitations of this thesis.

5. Analysis

The analysis is driven by my first research question, which is:

Which linguistic and communicative features do medical professionals apply to express what they know and believe in their communication of the COVID-19 vaccines on Instagram?

In this chapter, I will present the analysis, which was conducted in two steps: The first step is presented in 5.1., where I have identified evidentiality markers, i.e. linguistic markers the writers apply to mark what they know and believe (Myers, 2010). The second, and most substantial part of the analysis presented in 5.2. is an inductive data-driven analysis informed by Gee's critical discourse analysis and the seven building tasks for language (Gee, 2011; 2014). My motivation for applying this methodology is that I am interesting in analysing what the writers are doing when they write about the COVID-

19 vaccine, and to investigate it in connection with the surrounding contexts (see Chapter 3.3 for details on Gee's CDA).

5.1. Analysis of evidentiality markers

Based on the empirically based theoretical perspectives provided by Myers (Myers, 2010) as well as my own investigation of the data, I found that the evidentiality markers in these posts and excerpts could be defined into the following categories:

- No evidentiality markers – "belief"
- Signalling evidentiality by reported speech
- Signalling evidentiality by a combination of hearsay and belief
- Signalling evidentiality by a combination of reported speech and belief
- Signalling evidentiality referring to "we"
- Professional experience as an evidentiality marker

I will return to these categories throughout in 5.2.

5.2. Critical discourse analysis

According to Gee, we "always and simultaneously build one of seven things or seven areas of 'reality'" (Gee, 2011, p. 88) when we use language. The building tasks are significance, activities/practices, identities, relationships, politics, and connections. I have described the building tasks in detail in Chapter 3.4.4.

I will apply all of Gee's seven tools to the excerpts from the data I have chosen to include in the report. I find it useful to apply all seven tools in the analysis, as this allows me to systematically highlight aspects of the discourse that are important to identify in the attempt of answering my research questions. I also hope that this systematic approach contributes to making my interpretations as transparent as possible.

I have marked the posts by Joshua Wolrich as JW, Dr Esmerelda DRE and Izzy Smith IS. I have also numbered them to make them easy to find in the appendix. The sections are organized as follows: I present cases of the evidentiality markers chronologically as per the list above. For each category, I will first offer a description of posts or data excerpts, and secondly I will conduct the analysis.

5.2.1. No evidentiality markers – «belief»

In several of the posts, the knowledge/belief is presented with no evidential markers. I will now look closer at how this is done in two posts.

5.2.1.1. No evidentiality markers – «belief»: Description of excerpts

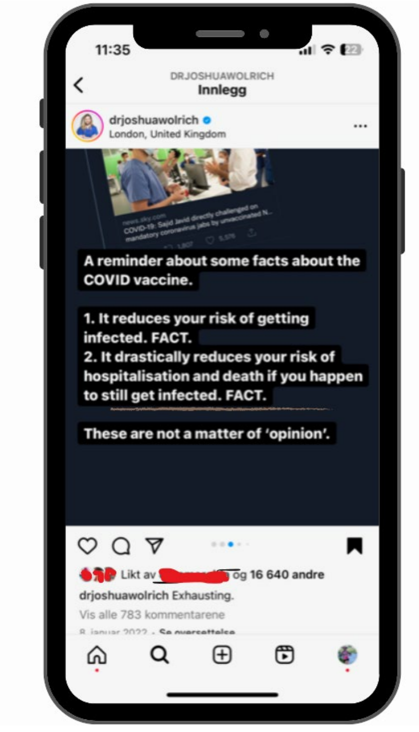
The first post I will present is by Dr. Joshua Wolrich (who I will call JW), the second by Dr. Esmerelda (DRE).

Example 1: JW1

JW1 consists of 8 images in a carousel (Leaver et al., 2020) and a caption. I will focus on the text added on to two of the images here. Since this is a rather comprehensive post, I will explain its immediate context (Linell, 2001) on Instagram: The background for the post is a news story from Sky News' Twitter feed, which is depicted in the first three pictures in the carousel, portraying two men in a hospital environment. The point of departure for the post is that the author, Dr Joshua Wolrich (JW), criticises a named

doctor who is only known to us as "Dr. James", for spreading false statements about the COVID-19 vaccine. JW also writes about the vaccine in this post.

JW provides the reader with knowledge/belief about COVID-19 twice: On the third (figure 7) and sixth (figure 8) image in the carousel of 8.



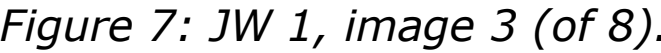


Figure 7: JW 1, image 3 (of 8).

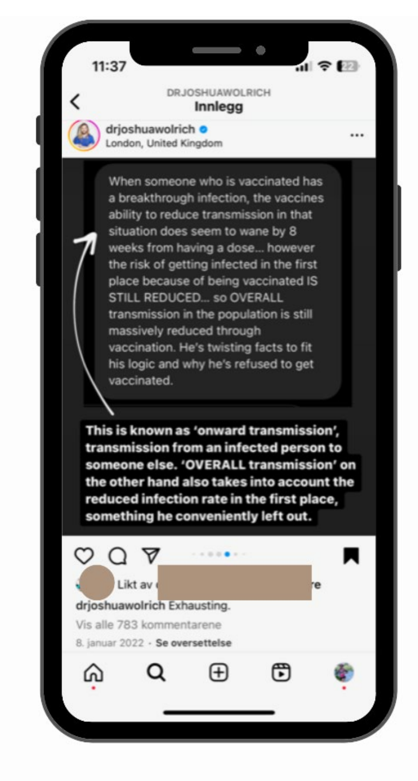


Figure 8: JW 1, image 6 (of 8).

On image 3 (figure 7) the following text is edited underneath a screenshot from Sky News' Twitter feed, using Instagram's editing tool:

> A reminder about some facts about the COVID vaccine.
> 1. It reduces your risk of getting infected. FACT.
> 2. It drastically reduces your risk of hospitalisation and death if you happen to still get infected. FACT.
> (JW 1)

The second time he presents fact about the vaccine is on image 6 (*figure 8*), JW explains an issue regarding vaccination. The image consists of a screenshot of a direct message (DM) sent on a smartphone. The DM reads:

> When someone who is vaccinated has a breakthrough infection, the vaccines ability to reduce transmission in that situation does seem to wane by 8 weeks from having a dose… however the risk of getting infected in the first place because of being vaccinated IS STILL REDUCED… so OVERALL transmission in the population is still massively reduced through vaccination.
> (JW 1)

Below the screenshot, JW has used the Instagram editing tool to add text. An arrow points from this text to the fourth line of the screenshot. The added text reads:

> This is known as 'onward transmission', transmission from an infected person to someone else. 'OVERALL transmission' on the other hand also takes into account the reduced infection rate in the first place, something he conveniently left out. (JW 1)

Example 2: DRE 5

Another example of knowledge/belief with no evidential markers and a strong commitment, is Dr Esmerelda (DRE) example 5 (*figure 9*). I am analysing the written text on the first image in a carousel of 4.
In this post, DRE compares the vaccination and booster programs in the UK and the US. The post consists solely of factual statements with no evidential markers.

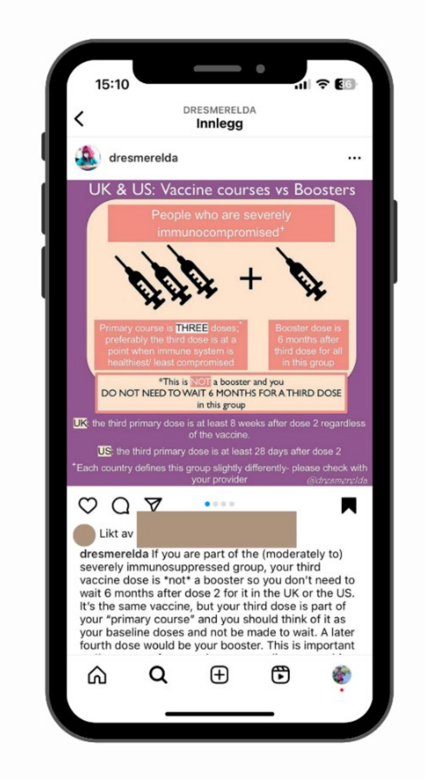


Figure 9: DRE 5, image 1 (of 4)

Description of the written text on the image:

> **(Heading) UK & US:** Vaccine courses vs. Boosters
> **(Textbox 1)** People who are severely immunocompromised+
>
> **(Textbox 2)** Primary course is THREE doses*; preferably the third dose is at a point when immune system is healthiest/ least compromised.
>
> **(Textbox 3)** Booster dose is 6 months after third dose for all in this group.
>
> **(Textbox 4)** *This is NOT a booster and you DO NOT NEED TO WAIT 6 MONTHS FOR A THIRD DOSE in this group.
>
> **(Text on the bottom of the image)**
> UK: the third primary dose is at least 8 weeks after dose 2 regardless of the vaccine.
> US: the third primary dose is at least 28 days after dose 2
> +Each country defines this group slightly differently- please check with your
> provider.

The caption reads:

> If you are part of the (moderately to) severely immunosuppressed group, your third vaccine dose is *not* a booster so you don't need to wait 6 months after dose 2 for it in the UK or the US. It's the same vaccine, but your third dose is part of your "primary course" and you should think of it as your baseline doses and not be made to wait. A later fourth dose would be your booster. This is important as I'm aware a few people are struggling to get this message across to their providers (who are forgivably busy and doing well at coordinating a complex roll out, so do help them to help you). Both the US and UK have slightly different lists so please check with FDA/CDC and JCVI to see if you're in this group.
> In the UK, Pfizer is the vaccine of choice, regardless of the first 2 doses (even for the group above). You can still opt for other vaccines if available at your local provider. For Moderna, both countries are using the half-dose option.
> (DRE 5)

5.2.1.2. No evidentiality markers – «belief»: Analysis

Building identity as experts

In both these posts, the IG-writers do not present any evidentiality markers for what they know or believe. A statement of without any evidentiality markers is what Myers describes as "belief". According to Myers, "belief need not have any source at all, just an inner certainty" (Myers, 2010, p. 118).
In these excerpts, we get a sense of the writers having such an "inner certainty". They give off an impression of confidence, signalling a strong commitment to the factual basis of their claims (Larjavaara, 2017; Myers, 2010). To use Gee's building task *identity*: This contributes to them building their identity as experts on the field.

Using the language of science and medicine

When it comes to the building tasks *sign systems and knowledge,* the language in these posts can on one hand be said to be "shaped to meet the purpose" (Gee, 2011, 138) of Instagram. It is largely vernacular in style, and addresses the reader directly, which is typical for the social language one expects on IG (Gee, 2011, pp. 156-161).
However, these relatively short posts are dense with medical information. JW addresses the technicalities of vaccinations, infections and different types of transmissions, and DRE writes about guidelines for immunocompromised people; differences between Moderna and Pfizer, etc. The authors also both use medical-technical terminology when describing medical phenomena, such as "transmission", "immunocompromised" and "FDA/CDC and JCVI".
This social language signals to the reader that there is an epistemological component at play here, with which the authors – if not the reader – are familiar. They "privilege" the sign system and knowledge of science and medicine. By using this language, both JW and DRE build a *relationship* between themselves as writers and the field of science and medicine.

Building a relationship with the reader

Both IG writers address the reader directly using the pronoun "you" in this post. According to Hyland, using "you" and giving directives are acts of engaging with the reader (Hyland, 2005, p. 177). In this, they are building a *relationship* with the reader, relationship being another of Gee's building task.

The *politics* building task deals with the distribution of social goods (Gee, 2011). Here, we see that the writers have what they perceive a social good – knowledge – which they assume the reader does not have. They explain, similar a doctor explaining something to a patient in the clinic. However, there is no indication of them being asked to explain this. According to Morek, when one participant in an interaction goes on to explain something without having been specifically asked to do so, the explainer is assuming an "epistemic asymmetry" (Morek, 2015) between themselves and the other. As a result, by going into dialogue with the reader, and using medical jargon in explaining medical issues, they are positioning the reader in a similar role to a patient, thus "*enacting the identity*" (Gee, 2011) of a doctor. This is familiar of the building tasks *practices, relationships and identities* we are familiar with from meetings between doctors and patients in the clinic.

Creating relationships between different actors in society: Competing for trust

By again applying the *politics* building task, focusing on the distribution of social goods, we can see how the IG writers discursively position themselves, the reader and other actors in the discussion on COVID-19 in these posts.
I will first apply the politics building task in looking at the *relationship* JW draws up between himself and Dr. James in JW1. In the medical setting, being a trustworthy and credible doctor is considered a social good. By capitalising the word "OVERALL", JW emphasises to readers that there are differences between overall and onward transmission. By this, he draws attention to the fact that Dr. James has only mentioned one ("onward"), whereas JW provides the reader with more nuanced insight.
He ironically writes *"(…) something he conveniently left out"* about Dr. James, where "conveniently" serves as a booster (Hyland, 2005) portraying Dr. James as suspicious and not trustworthy.
JW is thereby depriving Dr. James of the social good of trust. By pointing this out, and providing the reader with more nuanced information, JW as a result positions himself as a more credible doctor. This also functions to build a *relationship* between the reader and Dr. James on one hand (in which the reader should not trust Dr. James) and the reader and JW on the other (in which the reader should trust JW).

Creating relationships between different actors in society: Assigning roles in handling the pandemic

By applying the building tasks *connection* and *relationship,* we see that DRE is, similarly to JW, building a relationship between the reader and the vaccine providers, in urging the reader to inform the "understandably busy" vaccine providers about the boosters. She is signalling the message that "we are all in this together".
The readers (who she presumably thinks are not working in the health care industry) are awarded the "social good" of having time and compassion to give to (presumably exhausted) vaccine providers. She positions herself as the source of knowledge, the vaccine providers as victims and the readers as her helpers in dealing with the pandemic.

Creative use of Instagram

A noticeable feature of both these posts is how the writers utilise IG creatively to make certain points *significant,* which another of Gee's building task.
JW's use of capital letters of the words FACTS and OVERALL, and the repetition of the word FACTS, gives off the impression that this a final statement on the matter, and that the factuality of the claim is not open for discussion. In online discourse, ALL CAPS can be seen as a paralinguistic device that is seen as equivalent to shouting at the readers, and is associated with aggression (Barton & Lee, 2013, p. 88). The all caps serve almost

like an additional period or exclamation mark, giving the reader associations to an angry person stomping their fist against the table to prove a point.

DRE also uses capital letters, stressing the statements "*Primary course is THREE doses*»* and *«*This is NOT a booster and you DO NOT NEED TO WAIT 6 MONTHS FOR A THIRD DOSE in this group».* The use of capital letters can be seen as a booster, which help "writers to present their work with assurance while effecting interpersonal solidarity» (Hyland, 2005). The * indicates that these two statements are related, and the use of capital letters serve as a booster for the statement (Hyland 2005). Also, this point is repeated in the first sentence of the caption, highlighting the word "not" using the *-symbol: *"your third vaccine dose is *not* a booster."* Instagram does not allow for italics or bold, so the *-sign functions here as a creative paralinguistic device to stress her point.

The use of capital letters, the creative use of signs in the captions, and the application of Instagram's editing functionality on the images and elements to emphasis words and statements in the images, show the authors' familiarity and creativity with the medium. They are expertly participating in the *activity* or *practice* "being on Instagram". By this, we can also apply the building task *identity*: By mastering the practices of Instagram, they are building the identity of the expert Instagrammer.

5.2.2. Signalling evidentiality by reported speech

Another way the authors present knowledge/belief about COVID-19 is when the IG writers credit other sources for the statements they are providing. This phenomenon is called "hearsay" (Myers, 2010), "reported speech" (Matoesian, 2000), "manifest intertextuality" (Kristeva, 1986 in Fairclough, 2006) or "actual intertextuality" (Ivanic, 1998). I will use these terms interchangeably below.
I find that the authors use reported speech to mark knowledge on two accounts: Reported speech serves as an evidentiality marker for their knowledge or belief on matters to do with the vaccine, however it also marks the writers' knowledge of or belief that there is a discussion about COVID-19 taking place.

5.2.2.1. Signalling evidentiality by reported speech: Description of excerpt

An example of reported speech serving as an evidentiality marker for knowledge or belief on matters to do with the vaccine, is in IS 5. She argues that increasing the number of beds in intensive care units (ICU) is not a good alternative to COVID-19 vaccination.
The post consists of 4 images in a "carousel" (Leaver et al., p. 49) (*figure 10*).

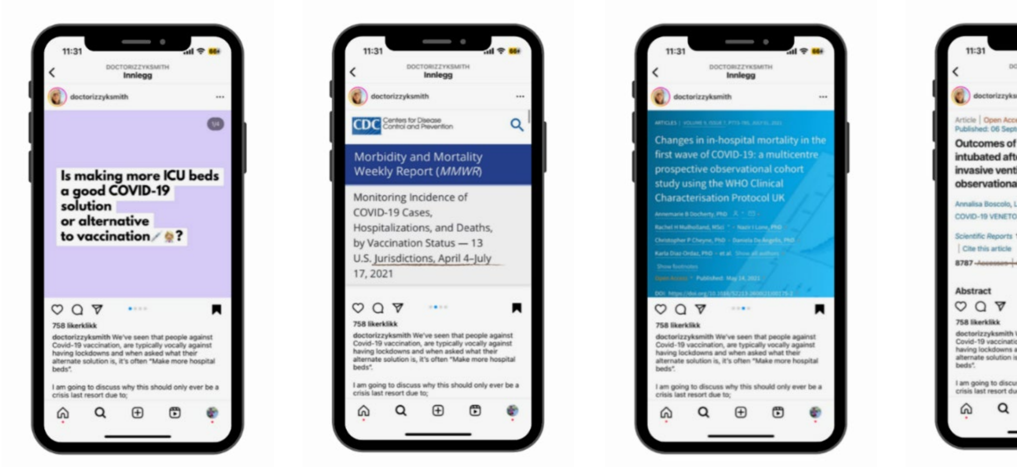


Figure 10: IS 5, 4 images in a carousel.

On the first image, which consists of text on a blue background, IS asks the question: *"Is making more ICU beds a good COVID-19 solution or alternative to vaccination?"*

Upon swiping left, the reader gets access to three images which appear to be screenshots of the title and author page of three academic articles.
In the caption, she elaborates on the topic and explains the research findings reported in the articles. I provide excerpts of the post that use reported speech to show what she knows or believes regarding the topic:[6]

> A study from Nature looked at 25 ICUs and found of people intubated for Covid, the mortality rate was 45%.
> A study in the Lancet demonstrated that for anyone hospitalised for covid-19, the mortality rate was 11-33%, depending on the population considered (age, ethnicities, comorbidities).
>
> So, if our solution is to make more hospital beds rather than have people vaccinated, if they end up intubated in ICU they will have a roughly 50% chance of dying or 1/10 to 1/3 if hospitalised.
> (…)
> Versus if someone gets vaccinated, a CDC study demonstrated if you are vaccinated you are 5 x less likely to catch covid and 11 times less likely to die. (IS5)

5.2.2.2. Signalling evidentiality by reported speech: Analysis

Creating an ambiguous relationship with the reader

Applying the *relationship* building task, we see that IS creates a relationship with the reader by engaging them in a question, and then addressing the reader directly by the use of "you" (Hyland, 2005). According to Hyland, "Questions are the strategy of dialogic involvement par excellence, inviting engagement and bringing the interlocutor into an

[6] I assume the journals she refers to in the caption are synonymous with the ones in the photos, however this is not made explicit in the post.

arena where they can be led to the writer's viewpoint (Hyland, 2002b). They arouse interest and encourage the reader to explore an unresolved issue with the writer as an equal, a conversational partner, sharing his or her curiosity and following where the argument leads" (Hyland, 2005, p. 185).

It may be worthwhile here, however, to consider whether the question presented on the first image in the post is a genuine one, or rhetorical. In Hyland's study of academic texts, the vast majority of questions in academic publications were rhetorical (Hyland, 2005). Instagram is not an academic context *per se*. However, this post leans itself upon academic genres by including clippings from academic journals, and by the way the writing about vaccination vs intubation in the caption is highly medical-technical, privileging the building tasks *sign system and knowledge* of science and medicine.

Whether the question is seen as a genuine invitation to the reader to participate in the discussion on how to best deal with COVID-19, or whether serves a rhetorical function as a creative point of departure for IS to address the issue on intubation vs vaccination, comes down to the interpretation of the reader. However, in the caption, IS uses quite complex language when describing the science. Thus, after first having invited the reader as "an equal", this equality may take a sudden halt for some readers, simply because they don't really take the question as an invite, or because they are unfamiliar with the social language used. In these cases, the reader is positioned as less knowledgeable than her on the topic; an interpretation supported by the fact that she elects to present and explain the science in the first place.

Making science significant by competent use of Instagram

Although Instagram images have great variety (Leaver et al., 2020), these clippings do not resemble the photographic aesthetic and style perhaps commonly associated with the platform. By using screenshots of academic articles and elaborating on them in the caption, IS is engaged in the expert *practice* of being on Instagram by creatively utilising the functions of the medium to communicate her medical knowledge, thereby building *significance* to the role of the science articles in relating her point of view to the reader.

Developing an interpretative frame

We have seen that IS engage the reader directly throughout the post. During this process, the roles of IS and the reader develop, and with that, an interpretative frame (Matoesian, 2000, p. 889). The interpretative frame that IS suggests, guides the reader *how* to understand or interpret these (although whether she succeeds, depends on the reader's own background and context): Science is important in the discussion, IS represents science and expertise, she implies through the choice of language and in her address to the reader that she knows more than the reader, who as a result is positioned as lesser-knowing and expected to trust her evidence (the science articles). Like with JW1, we see that this resembles the traditional role of the patient and the doctor in the clinic.

Creating the identity of an informed medical doctor

The screenshots in the image section gives the reader the opportunity to look up and evaluate the science for themselves. This is similar to how citation works in an academic context, which builds *connections* between IS, Instagram and the scientific community.

This connection to the scientific community also comes into play when we look at how IS is creating her professional *identity* by including these articles, which is an act of intertextuality. Ivanic writes: "Actual intertextuality is relevant to writer identity in two ways. Firstly, writers in academic contexts (…) have to position themselves in relation to the highly valued convention in academic writing of quoting from authoritative sources. They have to ask themselves the question: am I the sort of person who quotes others? and if so, how?" (Ivanic, 1998, p. 48).

On Instagram, IS has the identity of an IG author who not only presents herself as a doctor in the bio, but who also cites academic articles and uses scientific sources from the health sciences to signal evidentiality for the knowledge she presents. This is a *practice* associated with medical-scientific professional conduct.

Recontextualising science on Instagram

The science articles can be seen as a case of direct reported speech (Matoesian, 2000). According to Matoesioan, direct reported speech "bestows and aura of objectivity, authority and persuasiveness to the current moment of speech" (Matoesioan, 2000, p. 882). This is imperative when we seek to understand the connection between science and IS' involvement in the discussion of COVID-19.
According to Matoesian, "(D)irect quotes may appear more epistemologically privileged, more authoritative, and more objective because the quoting speaker appears as a mere animator who presents an exact wording of the quoted speech rather than his/her own moral stance" (Matoesian, 2000, p. 884). One could apply Goffman's terms *animator, author,* and *principal* (Goffman 1981 in Matoesian, 2000, p. 881), in saying that IS can be seen the animator here, the authors are the scientific journals or their editors, and the researchers behind the studies are the principals. In this light, IS' relationship with the journal articles could be read as though she is simply pointing at the facts available, placing the science articles in the foreground and her "moral stance" or "affective stance" (Myers, 2010) in the background (Matoesian, 2000). Her opinion is presented as formed by the evidence, not the other way around.

However, when posted onto Instagram, these articles and research findings are recontextualised (Fairclough, 2010): Originally published in a scientific context, with its own rules and norms for judgement and response, by being recontextualised to the discussion of COVID-19 in the vernacular, non-scientific community of Instagram, the science articles are no longer simply presenting recent research in a scientific context. Rather, IS is strategically using the "aura of objectivity, authority and persuasiveness" (Matoesian, 2000, p.882) the science articles represent, in her participation in the discussion on how to handle COVID-19. This is a case of interdiscursivity, "i.e. the appropriation of semiotic resources from other professional practices and disciplinary cultures" (Bremner, 2018, p.35) on Instagram.

5.2.3. Signalling evidentiality by a combination of hearsay and belief

Another type of reported speech found in the data, is reported speech that have no named sources, i.e. hearsay (Myers, 2010).

5.2.3.1. Signalling evidentiality by a combination of hearsay and belief: Description of image

An example of this is DRE 2 (*figure 4)*. I have here chosen to analyse the text presented on the image (i.e. not the caption), which consists of a picture of the author with a syringe-emoticon, and text added next to the picture.

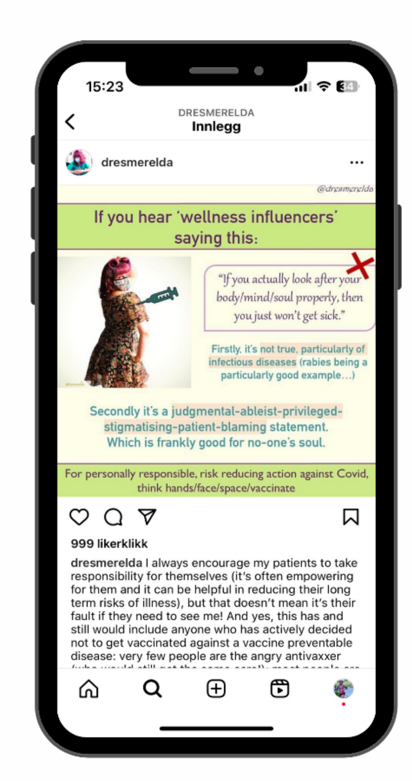


Figure 11: DRE 2

Description of the text on the image:

> If you hear "wellness influencers" saying this: "If you actually look after your body/mind properly, then you just won't get sick." Firstly, it's not true, particularly of infectious diseases (rabies being a particulary good example …). Secondly it's a judgmental-ableist-privileged-stigmatising-patient-blaming statement. Which is frankly good for no-one's souls. For personally responsible, risk reducing action against Covid, think hands/face/space/vaccinate. (DRE 2)

The post quotes unnamed "wellness influencers", where the reported speech serves as an evidentiality marker for DRE's knowledge of there being different opinions on how to deal with COVID-19 and the vaccine. Her mentioning of the quote being "not true" and mentioning rabies as part of her argument, is a case of the evidentiality marker "belief".

5.2.3.2. Signalling evidentiality by a combination of hearsay and belief: Analysis

Making unreliable "wellness influencers" significant in the Conversation of COVID-19

In this post, DRE presents us with a statement allegedly coming from "wellness influencers", which she then goes on to counter. Referring to a statement that the speaker or writer holds as untrue, is a case of what Larjavaara labels "incredulous evidentiality" (Larjavaara, 2017). In cases of incredulous evidentiality, according to Larjavaara, "the speaker does not only distance him/herself from the propositional content of the reported speech but even denies it and thus commits him/herself to its untruthfulness" (Larjavaara, 2017, p. 201).

Although there are no named sources for this particular quote, the quotation marks signal that it does indeed stem from a source, and the term "influencer" alludes to the fact that these sources are to be found on social media – in other words that these kinds of arguments are part of the on-going Conversation (Gee, 2014) on COVID-19 on Instagram (which they also were at the time (Baker, 2022)). DRE could have chosen to ignore these kinds of statements on her platform. She does not. Rather, by addressing this fake claim on her Instagram, and thereby "committing herself to its untruthfulness" (Larjavaara, 2017), she not only uses the quote as evidence to show that there is indeed a discussion taking place when it comes to COVID-19; she is also making claims such as these *significant* to the discussions surrounding the pandemic.

Distributing the social good of trust

DRE goes on to make the reader an active participant in this discussion, by addressing her/him directly in the headline ("*If you hear 'wellness influencers' saying this*"). When she then goes on to debunk the statement, she positions the reader as needing her guidance and advice on how to approach such statements. By positioning herself as a person able to give such advice, she is building a *relationship* between herself, the anonymous "wellness influencers", and the reader. In this relationship, she takes on the role of the credible expert, the reader as somebody who needs help and guidance when encountering health information on social media, and wellness influencers as unreliable sources who cannot be trusted. This is a *political* move: For influencers in what has been labelled the "like economy" (van Dijck & Poell, 2013), one of the greatest "social goods" is precisely influence; here, the power to influence individuals on social media to follow their advice. DRE here seeks to deprive them of that power, and to gain the readers' trust.

The political aspect of the post is also striking in the last sentence, where she departs from the medical explanation that she touches upon by mentioning rabies, and moves on to a strongly moralistic explanation as to why the statement is wrong, labelling influencers who present such arguments as "*judgmental-ableist-privileged-stigmatising-patient-blaming"*. She debunks their credibility and, by that, attempts to reduce their social power.

Engaging in the social practice of Instagram

When focusing on the *sign system or language*, we see that DRE uses jargon familiar for Instagram. "We expect bloggers to give us their opinion," according to Myers (Myers, 2010, p 95). The evidence of her first argument is toned down, she simply states that it is "not true" and mentions rabies without providing further explanation. The "judgmental-ableist" etc. argument is highlighted by the sheer detail level in the number of adjectives. It is worth noting that although DRE is criticising "influencers" in this post, she is at the same time constructing her own "socially recognisable identity" of an Instagrammer (or influencer) by toning down the medical language and foregrounding the social language of Instagram,.

5.2.4. Signalling evidentiality by a combination of reported speech and belief

In DRE 1, DRE uses both reported speech and no evidentiality markers when communicating her knowledge and belief.

5.2.4.1. Signalling evidentiality by a combination of reported speech and belief: Description of post

This post was written in the larger context of the discussion about the so-called "hoarding" of COVID-19 vaccines by rich countries, on the expense of poorer countries' vaccine access (see for example Mueller, 2021).

This post contains text both on the image and in the caption. I will look at the text on the image, which consists of a main headline, and two captions, each with a separate sub-heading.

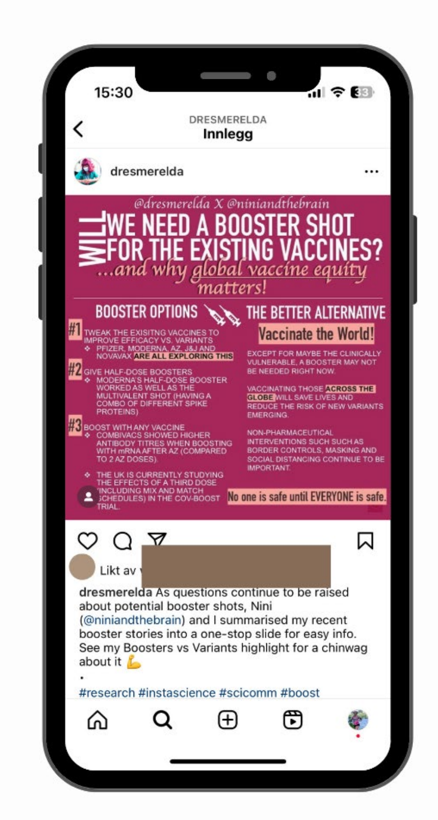


Figure 12: DRE 1

The main headline reads:

> @dresmerelda & @niniandthebrain.
> WILL WE NEED A BOOSTER SHOT
> FOR THE EXISTING VACCINES?
> … and why <u>global vaccine equity</u>
> matters!
> (DRE 1)

Below, there are two columns, each with a separate title/heading.

<u>Column 1:</u>

BOOSTER OPTIONS

#1 TWEAK THE EXISTING VACCINES TO IMPROVE EFFICACY VS. VARIANTS

- PFIZER, MODERNA, AZ, J&J AND NOVAVAX ARE ALL EXPLORING THIS

#2 GIVE HALF-DOSE BOOSTERS
MODERNA'S HALF-DOSE BOOSTER WORKED AS WELL AS THE MULTIVALENT SHOT (HAVING A COMBO OF DIFFERENT SPIKE PROTEINS)

#3 BOOST WITH ANY VACCINE

- COMBIVACS SHOWED HIGHER ANTIBODY TITRES WHEN BOOSTING WITH mRNA AFTER AZ (COMPARED TO 2 AZ DOSES).
- THE UK IS CURRENTLY STUDYING THE EFFECTS OF A THIRD DOSE (INCLUDING MIX AND MATCH SCHEDULES) IN THE COV-BOOST TRIAL.

(DRE 1)

<u>Column 2:</u>

THE BETTER ALTERNATIVE.
Vaccinate the World!
EXCEPT FOR MAYBE THE CLINICALLY VULNERABLE, A BOOSTER MAY NOT BE NEEDED RIGHT NOW
VACCINATING THOSE **ACROSS THE GLOBE** WILL SAVE LIVES AND REDUCE THE RISK OF NEW VARIATNS EMERGING
NON-PHARMACEUTICAL INTERVENTIONS SUCH SUCH AS BORDER CONTROLS, MASKING AND SOCIAL DISTANCING CONTINUE TO BE IMPORTANT
No one is safe until EVERYONE is safe
(DRE 1)

DRE here presents two competing scenarios. In column 1, “booster options”, she gives three options regarding the COVID-19-booster regime, presented with facts about each option. The information in each sub-heading is presented without any evidentiality markers. However, below each of these statements, DRE elaborates by pointing to research studies, made by (respectively) pharmaceutical companies and the *UK COV-boost trial*. Thus, the evidential markers for the various booster options are indirect reported speech or hearsay (Myers 2010).
In column 2, she explains that vaccinating the world is a better option. She does not present any sources for this statement, making it a case of belief (Myers, 2010).

5.2.4.2. Signalling evidentiality by a combination of reported speech and belief: Analysis

Using Instagram expertly to create significance

This is a rather “busy” post, containing a lot of information. Again, we see how DRE uses the affordances of Instagram and graphic design features to highlight words and phrases by a creative use of colours and punctuation. The categorical use of capital letters gives the reader the impression that she is “shouting” (Barton & Lee, 2013, p. 88), which strengthens the impression that she has a lot she needs to tell here – that both the information about the booster programs as well as the value in global vaccination, are *significant*.
The fact that the two opposing strategies are presented visually next to each other, and appear somewhat symmetrical, can give the immediate impression that they carry equal weight. However, the phrase “better alternative”, the exclamation marks in “*Vaccinate the world!*” and the emphasis in “*No-one is safe until EVERYONE is safe*” makes it clear to the reader that the strategy in column 2 is the one DRE wants to highlight, in other words, the strategy that she makes the most *significant*.

Participating in a geo-political discussion

In the first column, she presents the reader with a list with information about the booster vaccines, referring to various sources. In the second, she states that a global vaccination program is “better” than national booster regimes. She builds a *relationship* between the two, implicitly making them mutually exclusive. The *relationship* between rich and poor countries which she portrays here, and the *connection* she presents between national health-policy strategies and the global battle against COVID-19, makes this a highly *political* post. DRE argues for a redistribution of vaccines for a greater global outcome, commenting on real politics, and she is creating a conflict between the two in this post. The arguments in the second column is presented as a personal view, and one that is predicting the future at that.

The fact that DRE is making a statement regarding which vaccine policy will be most beneficial, without providing any sources for this inherently difficult prediction, is a case of what Myers calls “unrealistic certainty” (Myers, 2010, p. 119). One would imagine that most readers were aware that it is near impossible to predict the future outcomes of different COVID-19 strategies, and the lack of sources in column 2 strengthens this impression. It is therefore quite clear that column 2 represents her opinion. This aligns with what Myers found in his study of opinions being common among bloggers (Myers, 2010, p. 95).

Juggling between two identities

Based on the analysis above, we can see that DRE in this post juggles between two subject positions – or *identities* – by using two different kinds of social languages (or *sign systems)*, founded on opposing *knowledge systems*: Column 1 represents the professional, trustworthy doctor with a scientific foundation. Column 2 represents the approachable, opinionated Instagrammer, who is making predictions that are impossible to prove. She is leaving it up to the reader which version of her they want to relate to. It can be said that she is engaging in a new type of social identity: The one of a doctor on Instagram.

5.2.5. Signalling evidentiality referring to "we"

In several of the IG posts, facts related to COVID-19 are attributed to knowledge that the authors claim "*we*" have. In Hyland's model, the personal pronoun "we" can be categorised in two ways: It can function as "self-mention", which according to Hyland marks stance (Hyland, 2005); or it can indicate shared knowledge (with the reader), indicating engagement (Hyland, 2005) (See also Biber et al., 2000, p. 329). I interpret "we" in this case to indicate self-mention, as we shall see that it refers to how the authors use it to present their connection with a larger medical community. While self-mention is quite common in IG jargon, my focus here is on those instances where "we" is used to mark how the IG writers know or believe what they state about the COVID-19 vaccine.[7]

5.2.5.1. Signalling evidentiality referring to "we": Description of excerpts

I will describe how "we" is used as an evidentiality marker in JW2 and IS2.

Using "we" as an evidentiality marker: Description of excerpt by JW2

In JW2, the use of "we" is used when explaining why the COVID-19 vaccine requires a booster:

> Were the need for boosters always a possibility? Certainly, **we** knew that at the beginning – lots of other vaccines utilise boosters, this isn't a new process. Polio, Hep B, Tetanus, Whooping cough… all use boosters as part of their current regimens
>
> Why do we[8] need a booster now?
> **We've** found that our immune response to the two doses of the vaccine seems to wane at about 4-6 months, and the Omicron variant at the moment is specifically good at escaping immunity without a booster dose.
> (JW2)

The "we" is ambiguous, particularly in the first paragraph. Whether he refers to knowledge we all have, or knowledge held by himself and his medical colleagues, is down to the reader's interpretation. However, while it cannot be taken for granted that all readers knew this before, it is common knowledge in the medical community. The booster "certainly" (Hyland 2005) in the first paragraph further implies that this is knowledge that is taken for granted by health professionals.

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[7] There are several other cases of self-mention in the data, which have other usages. An analysis of these are outside of the scope of this thesis.

[8] This «we» is referring to «society» and is not part of the analysis.

Using "we" as an evidentiality marker: Description of exerpt by IS2

In IS2, IS lets the reader know that "we" know a thing or two about the vaccines when writing about the risk of vaccination for pregnant women:

> If 25% of pregnancies result in a miscarriage, of course some are going to occur in people who've been vaccinated. This being recorded e.g., by TGA does not mean **we** think there is causation, more that safety is being scrupulously investigated.
>
> Pfizer cannot promise there is no long-term side-effects because there simply has not been a long time. However, this is not evidence that they are unsafe, and **we** know vaccines do not cause long-term side effects.
> (IS 2)

I interpret "we" here to referring to the medical community, which is more explicitly marked in the discussion of more ICU beds versus vaccination in IS5:

> Versus if someone gets vaccinated, a CDC study demonstrated if you are vaccinated you are 5 x less likely to catch covid and 11 times less likely to die**. We** are seeing this clinically with as of the 22nd of Sep, NSW has had no one die under the age of 70 who'd received both vaccines.
> (IS 5)

The word "clinically" implies to the reader that "we" refers to the medical community on some level (as opposed to society in general).

5.2.5.2. Signalling evidentiality referring to "we": Analysis

Communicating on behalf of the larger medical community

Hyland calls personal pronouns, such as "we", an "explicit author reference" (Hyland, 2005, p.181): "the presence or absence of explicit author reference is generally a conscious choice by writers to adopt a particular stance and disciplinary-situated authorial identity" (Hyland, 2005). We see here how the authors build *relationships* with the scientific medical community in these posts, and with that, their *identity* as members of these communities.

The use of "we" also signals to the readers that the writers do not speak on behalf of themselves alone. They are taking on the voices of a larger community, a phenomenon Bakhtin describes as "ventriloquation":

> When each member of a collective of speakers takes possession of a word, it is not a neutral word of language, free from the aspirations and valuations of others, uninhabited by foreign voices. No, he receives the word from the voice of another, and the word is filled with that voice. The word arrives in his context from another context saturated with other people's interpretations. His own thought finds the word already inhabited.
> (Bakhtin 1973, p. 167 quoted in Ivanic, 1998, p. 50)

The IG writers here serve as spokespersons for a greater community, a similar *activity* to how representatives from health authorities and medical organisations appeared in press conferences and official channels during the pandemic. In referring to the medical community by the use of "we", the writers attribute *significance* to the weight of this

community when presenting facts about COVID-19, and they construct an *identity* of being spokespersons for science and medicine.

Privileging the language and knowledge from medicine

The *sign system and knowledge* from medicine is given privilege in these extracts: JW lists up other vaccines that use booster doses, thus leading the reader in the direction of applying this to be relevant to the COVID-19 vaccine.
"Immune response" (JW) is a medical-technical term, as are IS' mentions of "TGA", causation", and referring to what they are "seeing clinically". This is providing *significance* to science and medicine, which constructs medical knowledge as a social good relevant in solving the problem of COVID-19.
JW's use of the booster word (Hyland, 2005) "certainly" in "*Certainly, **we** knew that at the beginning"* and IS explanation that "***We** are seeing this clinically"* both indicate that this kind of information is for granted for those in the medical community. This assumption of an asymmetric division of knowledge (Morek, 2015) positions the reader as less and the authors as more informed when it comes to medicine and the vaccines in particular.

Positioning themselves and the readers

We have identified various references to who "we" are in these posts, but where there is a "we", one can argue that there is also bound to be a "you" and a "them". The "you" in this case – the "addressee" (Bakhtin, 1986 in Dysthe, 1997, p. 56) is the reader. When we consider the Conversation about COVID-19, it can be argued that the implied "them" are those who argue against a scientific view of COVID-19, or who are sceptical to the opinions of the expert communities which the authors identify with. Thus, the authors achieve more than simply situating themselves in a particular professional context by using "we". They also discursively draw up a map of the COVID-19 Conversation as consisting of three main players: those seeking advice ("you"), the people doubting science ("they"), and the trustworthy scientific community worth listening to ("we"). The *politics* building task comes into play here, in that they seek to remove power from their opponents and provide it to the scientific community. In the process they are providing the reader with an interpretative frame for the Conversation on COVID-19.[9] As members of a trustworthy medical community, the reader should trust their advice – not the opponents'.

5.2.6. Professional experience as an evidentiality marker

The authors use their own professional experience as evidential markers. I will now present how this is done in DRE4 and IS5:

5.2.6.1. Professional experience as an evidentiality marker: Description of excerpts

In DRE4, DRE is arguing for providing necessary healthcare to people who have refused the COVID-19 vaccine:

> **I can promise you I've treated some utterly horrible people in my time** but I give them the best care I can. I'm not about to draw the line at people who refused a vaccine, particularly in an age of rampant misinformation. Correct that misinformation when you see it but please remember that this is not a race to the

[9] In the larger dataset, the pronoun "we" is also used to refer to "us in society". However, there are no cases in the material were "we" signals membership with those scared of or critical to the vaccine.

> bottom. The world is divided enough without us trying to decide who we think 'deserves' healthcare and who doesn't. That's a dangerous path to start treading… (DRE 4)

DRE uses her personal experience as evidence for her professional conduct as a doctor in a time where medical treatment became a political issue: "*I can promise you I've treated some utterly horrible people in my time but I give them the best care I can"* serves as evidence for her giving professional, medical conduct, identifying her as a professional doctor who does not let politics get in the way of professional and ethical medicinal care.

In IS5, IS also draws to her personal experience when arguing that more ICU beds is not preferable to vaccination:

> Already NSW/VIC ICU's are struggling to staff units, that's not to mention doctors, the approximately $4500 cost/day of having someone in ICU or that rural hospitals don't have ICUs **(locum work rurally has taught me this nightmare)**.
> (IS 5)

5.2.6.2. Professional experience as an evidentiality marker: Analysis

Making medical professionalism significant to the discussion on COVID-19

In these posts, both DRE and IG use experience from their professional context to build evidence for real-life medical situations related to COVID-19. According to Hyland, such "personal asides" (Hyland, 2005) create engagement. In this case, they also create a *connection* between their professional experience and their opinions on how to deal with COVID-19, and with that, they are making their own professional experience *significant* to the discussion.

Another significant aspect in these posts is how the authors draw attention to the hardship they experience as doctors. Both DRE and IS point to negative experiences as evidence for the fact they present describing their professional reality "*horrible patients*" and "*nightmare*". This can be said to urge to the reader's sympathy with them.

In different ways, they both portray themselves as professional experts who are willing to experience the harsh realities of "the real world" for the benefit of medicine, and by making this significant, they assume the position that doctors' professional experience should hold weight in the discussion on how to deal with COVID-19. The *knowledge* from real-life medical work is foregrounded, and used as a carrying argument when participating in the *activity* of discussing COVID-19 on social media.

Creating a professional identity in a political discussion

DRE in her post draws a sharp line between political opinions and medical-professional conduct, thereby engaging in claiming the social good of medical professionalism (the *politics* building task). She also draws a line between herself and those she may agree with on the issue of vaccination, but who are *not* doctors, and who do not adhere to a medical guide of ethics. While she does sympathise with those who are angry at people who need healthcare after refusing the vaccine, her account of dealing with "horrible patients" signals that as a doctor, she is not making medical decisions based on political opinions. By making this point relevant, she builds her *identity* as a medical professional as well as a person engaged in political discussions.

By referring to her experience from rural hospitals, IS uses her professional context as an argument against the proposition that ICU beds are a viable option for dealing with COVID-19. She presents herself as a professional with real world experience which is relevant for the discussion, and which it is difficult to argue against for people without such experience. This is also a case of claiming a social good: the one of medical-professional experience.

6. Discussion

Based on the analysis, I will now return to the research questions. I will start with addressing the first question: *Which linguistic and communicative features do medical professionals apply to express what they know and believe in their communication of the COVID-19 vaccines on Instagram?*

I will then go on to discuss the second question:
What does this say about their communicative expertise as medical professionals on Instagram?

6.1. Linguistic and communicative features

I have used the framework provided by Hyland (2005) and Myers (2010) to identify linguistic features that characterise how the medical professionals express what they know and believe in these posts and excerpts. Using Gee's tools for CDA (Gee, 2011; 2014), I have analysed what the creators are *doing* when they are expressing what they know and believe in their communication of the COVID-19 vaccines. I will highlight some key findings from the analysis: How the IG writers are privileging the Discourse of medical science; how they interact with the reader; and their participating in the Conversation of COVID-19 and the request for trust.

6.1.1. Privileging the Discourse of medicine and science

The analysis shows that the Discourses (Gee, 2014) of medical science and medical professionalism are prominent in the three medical professionals' communication on Instagram of knowledge and belief related to the COVID-19 vaccine. They all present themselves under full names and professional status on their Instagram bio pages, and use the prefix Dr or Doctor in their usernames. The language in the posts and extracts is characterised by medical terms and jargon. They refer to health authorities and research journals as evidentiality markers. They also associate themselves with the larger medical community and take on the role as "spokespersons"; and they place significance on the value of professional experience when arguing their case on issues related to how to deal with the pandemic.

This corresponds with previous findings showing that medical expertise is discursively created in digital contexts by emphasising one's profession, referring to credible sources, using quantitative data, and building on personal experience (Rudolf von Rohr et al. 2019). These factors are all involved in the discursive creation of the IG writers' identities as medical professionals in these posts and excerpts.

6.1.2. Interacting with the reader

According to Bakhtin, the addresser of an utterance – in this case, the IG writers – expects a response from the listener or reader (Bakhtin, 2005, p.11). The analysis has given an indication of how the writers position the reader and want them to respond. The

analysis shows that the writers engage the reader by addressing them directly or asking questions, inviting to a dialogue (Hyland, 2005; Bakhtin, 2005).

Contrary to when a doctor meets a patient in the clinic, on Instagram the writers have little, if any, access to the readers' reasons or motivations for reading their posts. A post appears on a reader's Instagram feed as a result of complex algorithmic procedures, based on previous reading history, interests, paid advertisement etc, or because they actively visit a specific Instagram page (Leaver et al., 2020). The readers are, simply put, not necessarily "asking" for the particular content they are exposed to when they open their Instagram app and start scrolling. Further, Instagram has 2 billion users, and these creators have thousands[10] of followers. It is likely that the individual readers have varying degrees of medical competence, and that there are a number of reasons why they are exposed to and/or reading posts by these particular writers. Marwick and boyd have described the phenomenon "context collapse" (Marwick & boyd, 2010), leading to an "imagined audience" (boyd, 2006a in Marwick & boyd, 2010) (see Chapter 2). Who a writer imagines the audience to be, is made apparent by, among other things, their linguistic choices (Marwick & boyd, 2010).

The writers address the readers by communicating their knowledge and beliefs related to COVID-19 in a way that assumes that the reader knows less than the writer (Morek, 2015). According to Morek, "(e)xplaining (…) requires the participants to negotiate the interactional identities of 'explainer' and 'explanation-addressee' (Blum-Kulka, 2002, in Morek, 2015), which are usually linked to the epistemic statuses of participants as 'knowing' (or 'expert') and 'unknowing' (Heritage, 2012a, Heritage, 2012b)" (Morek, 2015). By explaining medical issues to the reader, in addition to presenting themselves as doctors, referring to medical knowledge, using the social language of science and medicine, and associating themselves with the medical community, the writers are positioning themselves and participating in a practice which is similar to the one we recognise from a doctor in a clinical setting. We also see that the reader is positioned in a role similar to the one of a patient: The writers assume the reader does not have sufficient medical knowledge required to understand the issues the writers address, and is seeking their explanation.

6.1.3. The Conversation of COVID-19 and the request for trust

This similarity between the writers and the doctor addressing a perhaps scared, confused or at-risk patient, is also relevant when we draw attention to the concept of trust, which is a key finding in the analysis. On how we can view trust during a pandemic, allow me to repeat Gurviez:

> Trust supposes an interdependent relationship, when one of the partners has to engage without being sure of the outcome. His decision is based on the estimation of his interest tied up with the other party's attitude or behaviour, plus a subjective feeling of security, which is embedded in the social context.
> (Gurviez, 1997, p. 508, quoted in Halliday & Catulli, 2013, p. 303).

In many respects, this is an apt description of COVID-19. The pandemic was a confusing time for most, and individuals across the globe were concerned about misinformation on

[10] At the start of this project, Drjoshuawolrich had (rounded up) 380 000 followers; Drizzyksmith 27 000 and Dresmerelda 19 000.

an issue that had potentially direct impact to their health and wellbeing (Edelman Trust Barometer 2020 in Bunker, 2020). COVID-19 is a case of a large Conversation (Gee, 2014) in 2020-22, in which two competing Discourses were particularly prominent: the Discourse of the WHO and other official health authorities, versus the Discourse of scepticism towards vaccination (WHO, 2020a, 2021, 2023).

The Conversation itself seems to be a point of departure for the authors to write about COVID-19 in a more medical sense. There is a sense that the writers "volunteer" to explain issues on COVID-19, in that the posts can be interpreted as answers or contributions to the larger Conversation of COVID-19, rather than responses to direct questions from particular readers. The analysis shows that the writers align with the Discourse of medical authorities, such as the WHO.

According to Bourne, there is an asymmetry in play between the person needing somebody to trust, and the person able to provide it (Bourne, 2013). The Discourses of medicine present in the posts/extracts can be said to provide the reader with a "feeling of security", in serving to reassure the reader that this is not merely the writers' opinion, but rather embedded in a medical context known for credibility, ethics and scientific rigour.
The writers are also depriving actors who represent the competing Discourses – like wellness influencers or doctors who oppose vaccination – of the social goods of credibility and trustworthiness.

6.1.4. Use of Instagram and creating new identities

Instagram is an untraditional medium for professional medical communication, however since its launch in 2010, Instagram's millions of users have developed the platforms unique "mix of 'styles, grammars, and logics'" (Gibbs, 2015 in Leaver et al., 2020, p.64), or what we can call an Instagram Discourse (Gee, 2011; 2014). The analysis indicates that communicating as a medical professional on Instagram, also involves participating in the Discourse of Instagram, with its associated practices and social languages. One aspect of this, is how the IG writers are competently handling the affordances and limitations of Instagram. Examples of this is how the image-section on the app is used to post creative infographics, or recontextualised content from other sources. They competently work around the limitations of the medium by using capital letters and signs such as the * to draw emphasis on certain words or statements in the captions (they also use emojis, which is not included in this analysis).

The IG writers also master the social language of bloggers and microbloggers. Examples of this is the direct manner in which they address and therefore go in dialogue with the reader (Hyland, 2005; Myers, 2010), and in their largely vernacular style of language. The analysis indicates how the writers are strategically juggling between several identities: the medical professional on Instagram, the expert Instagram-creator, or a combination of the two. When IS in IS2 uses Instagram to share recent research on vaccinations vs ICU beds, it is a case of the doctor being in the foreground. In DRE2, where DRE uses the social language of Instagram to dismiss "wellness influencers", the instagrammers is in the foreground. However, in several of the posts or excerpts, we see a combination of the two identities appearing at once.

This juggling between different social identities is similar to what was found by Atef et al.

in their study of doctors on YouTube and Facebook (Atef et al., 2023). Together with Atef et al.'s study, and Nesse's study of the transformation of the professional practice of a health nurse on Snapchat (Nesse, 2020), this study contributes to the indication that participating on social media for medical professionals, involves the creation of new professional practices and identities.

Thus, the study shows that communicating knowledge or belief about the COVID-19 vaccination on Instagram is not merely about mastering the more "technical" use of the medium and its affordances, nor is it only associated with their communication of "scientific/technical knowledge and clinical/experiential knowledge" (Friedson, 1970 in Sarangi, 2010, p.171) from the field of medicine – although these are both important components. In their communication on the COVID-19 vaccine, the medical professionals participate in the Discourse of Instagram in combination with the Discourses of medicine, participating in an act of interdiscursivity (Bhatia, 2010 in Bremner, 2018). In the social context of Instagram, they build connections and relationships between themselves and the Discourses of medicine and science, and the reader in the position of somebody needing advice. By claiming the "social good" (Gee, 2011) of credibility, expert knowledge and trust; and depriving other actors, such as "wellness influencers" or other named doctors, of these social goods, they are positioning themselves and the reader in relation to other participants in the larger Conversation (Gee, 2014) of COVID-19 with its competing Discourses. In this, they are actively participating in and constructing the Conversation of COVID-19 as a political site, in Gee's sense of the word (Gee, 2011).

6.2. Communicative expertise expressed in the Instagram posts

I will now discuss my second question: *By applying these features, what are they doing communicatively, and what does this say about their communicative expertise as medical professionals on Instagram?*

Expertise for medical professional can be seen as "a combination of scientific/technical knowledge and clinical/experiential knowledge" (Friedson, 1970 in Sarangi, 2010, p.171). In order to investigate the concept of communicative expertise, we need to look at the creators' medical-professional expertise in connection with the way it is communicated, including "the means through which knowledge/expertise is indexed in action" (Sarangi, 2018, p.388).

The analysis and discussion in 6.1.1. draws attention to how the medical professional's expertise is indexed by their association with and participation in the Discourse of medicine and science in the Instagram posts. However, when addressing "the "means through which it is indexed" (Sarangi, 2018, p 388), we need to turn our attention to how this expertise is communicated in the context of Instagram during COVID-19.
As described in 6.1.2–6.1.4., the medical professionals expertly draw on the Instagram Discourse, by mastering both the social language and the practices of the medium. As medical professionals, it can be argued that Instagram is part of their "expertise mix" (Sarangi, 2010, p.171). A point to make here, is that they successfully reached out to large audiences (based on their number of followers), indicating that they were mastering Instagram as expected by users in 2021-22.

According to Sarangi, "(p)rofessionals' acquisition of new technical knowledge and familiarisation with the changing organisational/institutional ethos as well as clients' access to expert knowledge more widely contribute towards transforming the nature of situated interactional trajectories" (Sarangi, 2010, p. 171). The Instagram-expertise is not unique for them as medical professionals; rather, it is shared by all competent users of Instagram as a form of "lay-expertise" (Sarangi, 2010). "Medical expertise" on the issue of COVID-19 was also distributed on Instagram among a variety of writers, both professional experts and lay-experts alike. A digital environment such as Instagram, where all writers are presented within the same immediate context (Linell, 2001), regardless of their "formal" expertise, becomes a challenging environment for medical professionals who wish to communicate their specific, technical-scientific knowledge in a high-risk situation such as the pandemic.

Sarangi and Candlin describe professional practice as both "a science and an art" (Sarangi & Candlin, 2010, p. 3), consisting of both "the application of established theories and principles" (Sarangi & Candlin, 2010, p.3) and "dynamism in context- and case-specific ways" (Sarangi & Candlin, 2010, pp.3–4). Based on the current study, one can apply this to the description of the medical professionals' use of Instagram. The analysis indicates that communicative expertise for medical professional on Instagram is not limited to giving the reader access to "scientific/technical knowledge and clinical/experiential knowledge" (Friedson, 1970 in Sarangi, 2010, p.171) through a competent handling of the medium. Rather, it also involves the adaptation of the prevailing communicative practices and Discourses on Instagram.
This combination of applying the "established theories and principles" (Sarangi & Candlin, 2010, p.3) from the Discourse of medicine and science, together with gaining expertise in the use of a new medium, and participating in its Discourses, indicates that medical professionals on Instagram develop their communicative expertise in dialogue with both their traditional Discourse and the new, evolving Discourses on Instagram.

7. Concluding remarks

This study makes a similar observation to Rudolf von Rohr et al.'s finding that professional communication of expertise in online settings is complex, and happens in interconnection between communicative strategies and the medium itself (Rudolf von Rohr et al., 2019). Based on the findings in this thesis, I will argue that in order to understand potential implications this has for professional expertise and communication, it is necessary to be aware the complexity social media appears to bring with it for professional practice (Sarangi & Candlin, 2010).

7.1. Implications for future research and practice

In the analysis, I have paid particular attention to how the writers mark what they know or believe. The results show a more frequent use of evidentiality markers than in Myers study of blogs (Myers, 2010). There are, of course, some key differences between this and Myers' study in terms of scope, focus, and the context of time and place of which the studies were undertaken. However, further investigation on the use of evidentiality markers in these types of digital texts could provide useful insights on the development of language and communication in (micro-)blogs and social media.

Similar to Nesse's study of a school nurse on Snapchat (Nesse, 2020), this study indicates that expert participation in Instagram by medical professionals also seems to

involve the adaptation of new practices and social languages, leading to potentially new understandings of what constitutes professional practice. In their 2013 book, Barton and Lee state that online communication "reshapes vernacular practices" (Barton & Lee, 2013, p. 183). Based on the current study, I would encourage future research to investigate further how it can also reshape *professional* practices.

For practitioners within health communication, this thesis provides insights into the complexity of social media communication. In a time where professional communication also includes social media, the findings from this thesis can serve as a basis for reflections on the consequences this has for professional practice.

7.2. Limitations

The findings from this small, qualitative study can not be used to draw any general conclusions (Skilbrei, 2019). The results must be read in the light of this being my interpretation, supported by my chosen theoretical framework. In order to gain a richer understanding of how Instagram is used in professional communication, the findings from this thesis would benefit from being seen in light of studies on the same topic with a broader scope, in which multimodal and/or semiotic analysis including images, emojis and/or hashtags; an inclusion of the comments sections, and interviews with creators and/or readers would be beneficial.

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Appendix

Appendix 1: GUa d`Y (images and written texts in 15 Instagram posts)

Appendix 2: E-mail correspondence with participants

Appendix 3: Comments from Dr. Farah Shahi («dresmerelda»)

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Appendix 1: Sample (images and written texts in 15 Instagram posts)

IG writer	Image/s in post	Texts (in images and captions)	Knowledge/belief about COVID-19
Dr. Joshua Wolrich (JW)			
JW1		***Image 1)*** *[Screenshot from Sky News on Twitter.* *Heading:* *Sajid Javid directly challenged on mandatory coronavirus jabs by unvaccinated NHS doctor* *Picture of a man in a blue hospital uniform and a facemask face to face to a man in a white shirt and a facemask in an open plan office.* New year, new poster child for the anti-vax community to put on a pedestal and hail as a martyr. **Image 2.)** Meanwhile, the remaining 99% of medical professionals collectively across the globe shake their heads in disbelief at the harm this charlatan will cause. **Image 3.)** A reminder about some facts about the COVID vaccine. 1. It reduces your risk of getting infected. FACT. 2. It drastically reduces your risk of hospitalisation and death if you happen to still get infected. FACT. These are not a matter of «opinion». 4.) When a medical professional like this comes out of the woodwork there is ALWAYS a pattern. Dr James appears to be no different. He runs a private «Breathlessness Clinic» where he practices through the pseudoscientific functional medicine paradigm.	A reminder about some facts about the COVID vaccine. 1. It reduces your risk of getting infected. FACT. 2. It drastically reduces your risk of hospitalisation and death if you happen to still get infected. FACT. This is known as «onward transmission», transmission from an infected person to someone else. «OVERALL transmission» on the other hand also takes into account the reduced infection rate in the first place, something he conveniently left out. Let me share a DM I sent about this exact point.

<table>
<tr>
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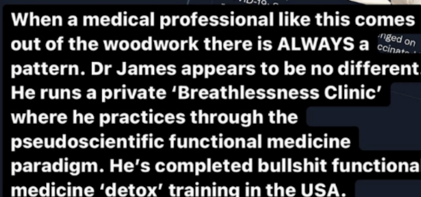

</td>
<td>He’s completed bullshit functional medicine «detox» training in the USA.
Having completed a medical degree doesn’t make someone immune to wellness culture infiltrating their beliefs and logic.
Image 5) Dr James claims that vaccines are essentially pointless because they «only reduce transmissions for 8 weeks». This is a harmful twisting of the truth. Let me share a DM I sent about this exact point.
Image 6) This is known as «onward transmission», transmission from an infected person to someone else. «OVERALL transmission» on the other hand also takes into account the reduced infection rate in the first place, something he conveniently left out.
Image 7) Can the general public be expected to understand this difference? OF COURSE NOT! That’s why trying to justify his actions by claiming he has the freedom to speech to share his «opinion» about mandatory vaccination for healthcare workers when that «opinion» is misinformation that will directly cause harm. As doctors we have a duty of care to protect the public.
This is not it.
Image 8) [Screenshot]: I consider myself a fairly sensible person educated to a reasonable level, a professional in my field – but hearing a doctor say this, someone in the profession, someone who I would listen to and act on their advice if I were sent to see him, his words made me question my choice of being vaccinated and allowing my children to be vaccinated – just for a short time but he did make me question myself – he is a dangerous man.
This is the scary thin
[Red text on a pink background, larger font:]
Authority bias is not a joke.
[Gå til COVID-19-informasjonssenteret for å lese mer</td>
<td></td>
</tr>
</table>

om vaksiner.]

Caption:
Exhausting.

	weeks from having a dose... however the risk of getting infected in the first place because of being vaccinated IS STILL REDUCED... so OVERALL transmission in the population is still massively reduced through vaccination. He's twisting facts to fit his logic and why he's refused to get vaccinated. **Can the general public be expected to understand this difference? OF COURSE NOT! That's why trying to justify his actions by claiming he has the freedom to speech to share his 'opinion' about mandatory vaccination for healthcare workers when that 'opinion' is misinformation that will directly cause harm. As doctors we have a duty of care to protect the public.** **This is not it.** I consider myself a fairly sensible person educated to a reasonable level, a professional in my field - but hearing a doctor say this, someone in the profession, someone who I would listen to and act on their advice if I were sent to see him, his words made me question my choice of being vaccinated and allowing my children to be vaccinated - just for a short time but he did make me question myself - he is a dangerous man. This is the scary thi **Authority bias is not a joke.** Gå til COVID-19-informasjonssenteret for å lese mer om vaksiner.		

<table>
<tr>
<td>JW2</td>
<td>
</td>
<td>Image: Vaccine cards

Caption:
Now if I was a professional influencer I would have managed to get a selfie whilst having my booster jab… but I wore a baseball t-shirt with three quarter length sleeves and ended up having to hold it pulled up for the nurse to have acces to my deltoid [eyeroll-emoji]. No hands free.
Instead, therefore, you get a boring picture of my vaccine cards and the «let's get vaccinated» sticker from my stories because I didn't even take a regular photo [latter-emoji med en tåre]. TERRIBLE influencer.
There's been a lot of nonsense chat about boosters, so let's clear a few things up:
Were the need for boosters always a possibility? Certainly, we knew that at the beginning – lots of other vaccines utilise boosters, this isn't a new process. Polio, Hep B, Tetanus, Whooping cough… all use boosters as part of their current regimens.
Why do we need a booster now? We've found that our immune response to the two doses of the vaccine seems to wane at about 4-6 months, and the Omicron variant at the moment is specifically good at escaping immunity without a booster dose. Your protection from getting severely unwell is still pretty amazing with only 2 doses, but breakthrough infections aren't just about you, they mean that overall numbers keep rising as being contagious is the name of the game when it comes to Omicron.
Why allow it to spread until it reaches someone with immunosuppression, or someone why medically can't be vaccinated… when getting boostered could prevent that? In addition, long-COVID isnt' a joke. You don't want to allow yourself to catch COVID for the sake of it and risk that happening. Please trust</td>
<td>Were the need for boosters always a possibility? Certainly, we knew that at the beginning – lots of other vaccines utilise boosters, this isn't a new process. Polio, Hep B, Tetanus, Whooping cough… all use boosters as part of their current regimens.
Why do we need a booster now? We've found that our immune response to the two doses of the vaccine seems to wane at about 4-6 months, and the Omicron variant at the moment is specifically good at escaping immunity without a booster dose. Your protection from getting severely unwell is still pretty amazing with only 2 doses, but breakthrough infections aren't just about you, they mean that overall numbers keep rising as being contagious is the name of the game when it comes to Omicron.
Does it matter what booster I get? Nope. I had Pfizer for my first two and Moderna for my booster. The research we have indicates that you may even have a better response if you mix! Get whichever is available.</td>
</tr>
</table>

		me on that one.	
JW3		**Image:** a comical illustration of a medieval-looking man with very large testicles. **Caption:** PSA: if your testicles are swollen, instead of listening to Nicki Minaj's cousin's friend, get your junk down to the sexual health clinic. I can confidently reassure you that there's absolutely no evidence the COVID vaccine causes testicular swelling or infertility… but untreated gonorrhea and chlamydia certainly does 😳	I can confidently reassure you that there's absolutely no evidence the COVID vaccine causes testicular swelling or infertility… but untreated gonorrhea and chlamydia certainly does
JW5		**Image (video): JW getting an injection by a nurse.** **Caption:** I've been asked on several different occasions recently to describe what I'm most excited about at the moment, and my answer has always been vaccines. Literally zero hesitation. You'd think it would be the book, but no. Vaccines. Surviving through a pandemic wasn't on my 10 year plan and I doubt it was on any of yours either. It can sometimes feel hard to find positives, but the fact that scientists across the globe have managed to develop not just one, but several effective and safe vaccines is absolutely amazing I'm currently on an academic year out from the hospital, so I expected to be waiting a long time to be invited for the vaccine, along with most everyone else in their 30s, but perhaps the occupation on my GP records got me invited early. Whatever the reason, I'm super grateful and feel incredibly privileged.	Small differences in efficacy don't change the fact that the faster we get this done, the more likely we are to reach herd immunity before the little *%#! has a chance to mutate properly.

		If you get invited to be vaccinated, GET VACCINATED. It doesn't matter which one. Small differences in efficacy don't change the fact that the faster we get this done, the more likely we are to reach herd immunity before the little *%#! has a chance to mutate properly.	
Dr Esmerelda (DRE):			
DRE1		**Text on image:** Heading 1: @dresmeralda & @niniandthebrain Heading 2: WILL WE NEED A BOOSTER SHOT FOR THE EXISTING VACCINES? Subheading: … and why global vaccine equity matters! Column 1: BOOSTER OPTIONS [two syringe icons] #1 TWEAK THE EXISTING VACCINES TO IMPROVE EFFICACY VS. VARIANTS • PFIZER, MODERNA, AZ, J&J AND NOVAVAX ARE ALL EXPLORING THIS #2 GIVE HALF-DOSE BOOSTERS • MODERNA'S HALF-DOSE BOOSTER WORKED AS WELL AS THE MULTIVALENT SHOT (HAVING A COMBO OF DIFFERENT SPIKE PROTEINS) #3 BOOST WITH ANY VACCINE • COMBIVACS SHOWED HIGHER ANTIBODY TITRES WHEN BOOSTING WITH mRNA AFTER AZ (COMPARED TO 2 AZ DOSES). • THE UK IS CURRENTLY STUDYING THE EFFECTS OF A THIRD DOSE (INCLUDING MIX AND	Column 1: BOOSTER OPTIONS [two syringe icons] #1 TWEAK THE EXISTING VACCINES TO IMPROVE EFFICACY VS. VARIANTS • PFIZER, MODERNA, AZ, J&J AND NOVAVAX ARE ALL EXPLORING THIS #2 GIVE HALF-DOSE BOOSTERS • MODERNA'S HALF-DOSE BOOSTER WORKED AS WELL AS THE MULTIVALENT SHOT (HAVING A COMBO OF DIFFERENT SPIKE PROTEINS) #3 BOOST WITH ANY VACCINE • COMBIVACS SHOWED HIGHER ANTIBODY TITRES WHEN BOOSTING WITH mRNA AFTER AZ (COMPARED TO 2 AZ DOSES). • THE UK IS CURRENTLY STUDYING THE EFFECTS OF A THIRD DOSE (INCLUDING MIX AND MATCH SCHEDULES) IN THE COV-BOOST TRIAL. EXCEPT FOR MAYBE THE CLINICALLY VULNERABLE, A BOOSTER MAY NOT BE NEEDED RIGHT NOW VACCINATING THOSE ACROSS THE GLOBE WILL

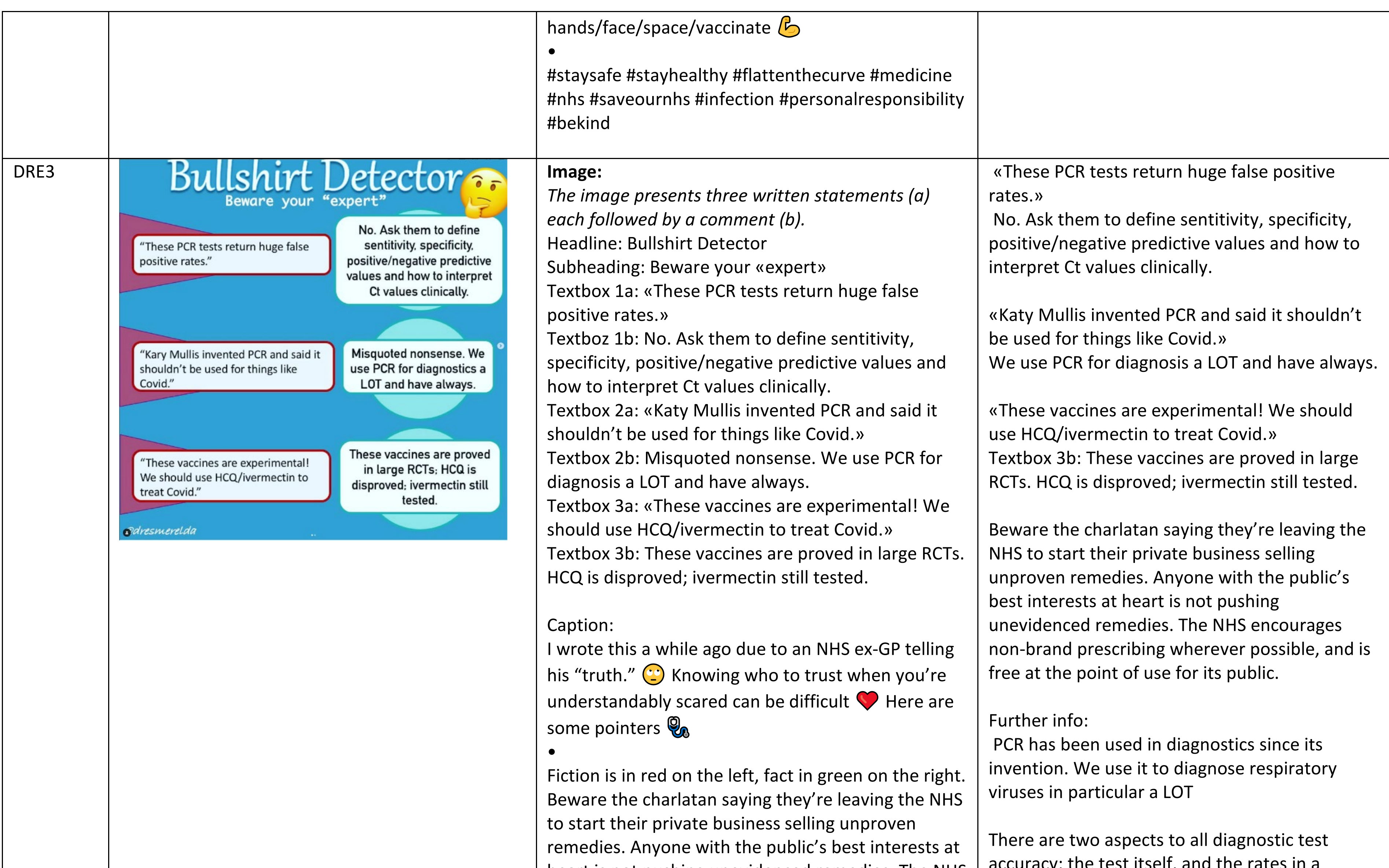
		MATCH SCHEDULES) IN THE COV-BOOST TRIAL. Column 2: THE BETTER ALTERNATIVE Vaccinate the World! EXCEPT FOR MAYBE THE CLINICALLY VULNERABLE, A BOOSTER MAY NOT BE NEEDED RIGHT NOW VACCINATING THOSE ACROSS THE GLOBE WILL SAVE LIVES AND REDUCE THE RISK OF NEW VARIANTS EMERGING NON-PHARMACEUTICAL INTERVENTIONS SUCH SUCH AS BORDER CONTROLS, MASKING AND SOCIAL DISTANCING CONTINUE TO BE IMPORTANT. No one is safe until EVERYONE is safe. **Caption:** As questions continue to be raised about potential booster shots, Nini (@niniandthebrain) and I summarised my recent booster stories into a one-stop slide for easy info. See my Boosters vs Variants highlight for a chinwag about it 💪 • Hashtags: #research #instascience #scicomm #boost #publichealth #globalhealth #global #highlights	SAVE LIVES AND REDUCE THE RISK OF NEW VARIANTS EMERGING NON-PHARMACEUTICAL INTERVENTIONS SUCH SUCH AS BORDER CONTROLS, MASKING AND SOCIAL DISTANCING CONTINUE TO BE IMPORTANT.

| DRE2 |
 | **Text on image:**
Heading: If you hear "wellness influencers" saying this:
Text in «speech bubble»: "If you actually look after your body/mind soul properly, then you just won't get sick."

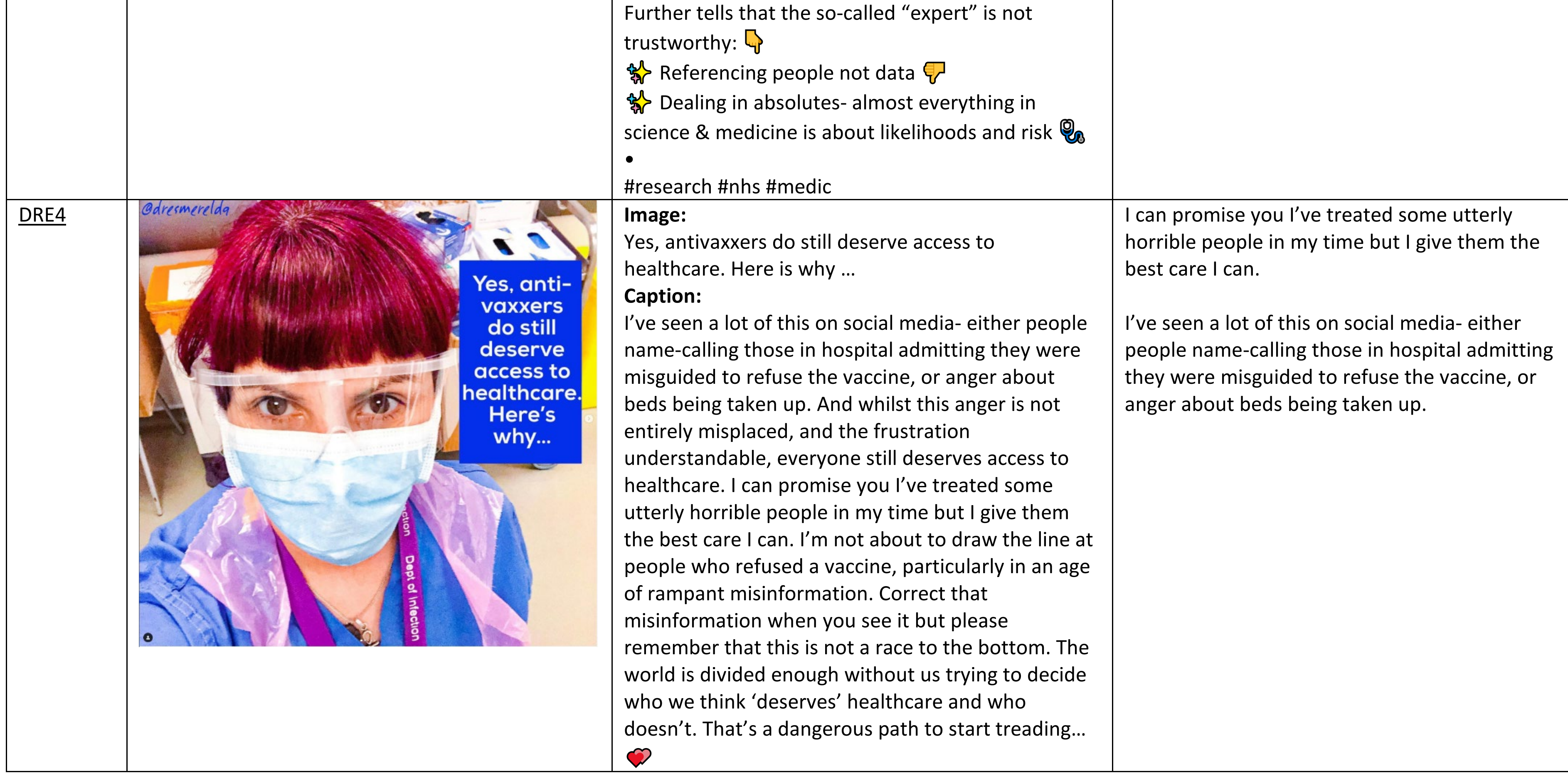
Firstly, it's not true, particularly of infectious diseases (rabies being a particularly good example …)
Secondly it's a judgmental-ableist-priveleged-stigmatising-patient-blaming statement. Which is frankly good for no-one's soul.

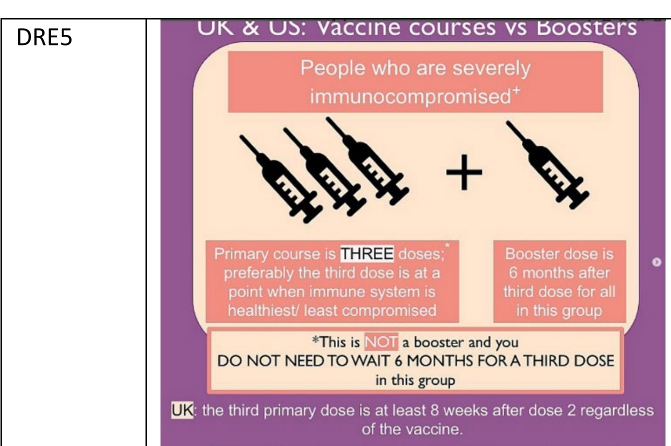
For personally responsible, risk reducing action against Covid, think hands/face/space/vaccinage

Caption:
I always encourage my patients to take responsibility for themselves (it's often empowering for them and it can be helpful in reducing their long term risks of illness), but that doesn't mean it's their fault if they need to see me! And yes, this has and still would include anyone who has actively decided not to get vaccinated against a vaccine preventable disease: very few people are the angry antivaxxer (who would still get the same care!); most people are just trying to navigate doing what they think is best for themselves and their children in a confusing world. But do note that the same people who spout this rhetoric as an "influencer" are usually the same people who have no issue with you seeing some form of charlatan if you're…you know…sick 🤒
•
If you want to take personally responsible, risk-reducing action against Covid then good for you: | Firstly, it's not true, particularly of infectious diseases (rabies being a particularly good example …) |

		hands/face/space/vaccinate 💪 • #staysafe #stayhealthy #flattenthecurve #medicine #nhs #saveournhs #infection #personalresponsibility #bekind	
DRE3		**Image:** *The image presents three written statements (a) each followed by a comment (b).* Headline: Bullshirt Detector Subheading: Beware your «expert» Textbox 1a: «These PCR tests return huge false positive rates.» Textboz 1b: No. Ask them to define sentitivity, specificity, positive/negative predictive values and how to interpret Ct values clinically. Textbox 2a: «Katy Mullis invented PCR and said it shouldn't be used for things like Covid.» Textbox 2b: Misquoted nonsense. We use PCR for diagnosis a LOT and have always. Textbox 3a: «These vaccines are experimental! We should use HCQ/ivermectin to treat Covid.» Textbox 3b: These vaccines are proved in large RCTs. HCQ is disproved; ivermectin still tested. Caption: I wrote this a while ago due to an NHS ex-GP telling his "truth." 🙄 Knowing who to trust when you're understandably scared can be difficult ❤️ Here are some pointers 🩺 • Fiction is in red on the left, fact in green on the right. Beware the charlatan saying they're leaving the NHS to start their private business selling unproven remedies. Anyone with the public's best interests at heart is not pushing unevidenced remedies. The NHS	«These PCR tests return huge false positive rates.» No. Ask them to define sentitivity, specificity, positive/negative predictive values and how to interpret Ct values clinically. «Katy Mullis invented PCR and said it shouldn't be used for things like Covid.» We use PCR for diagnosis a LOT and have always. «These vaccines are experimental! We should use HCQ/ivermectin to treat Covid.» Textbox 3b: These vaccines are proved in large RCTs. HCQ is disproved; ivermectin still tested. Beware the charlatan saying they're leaving the NHS to start their private business selling unproven remedies. Anyone with the public's best interests at heart is not pushing unevidenced remedies. The NHS encourages non-brand prescribing wherever possible, and is free at the point of use for its public. Further info: PCR has been used in diagnostics since its invention. We use it to diagnose respiratory viruses in particular a LOT There are two aspects to all diagnostic test accuracy: the test itself, and the rates in a

		encourages non-brand prescribing wherever possible, and is free at the point of use for its public. It's an ethos I wholly stand behind as it aims to give everyone the best care regardless of finances 🙌 But we've seen these same false arguments made everywhere by those who seek to spread doubt. 😒 • Further info: 👇 ✨ PCR has been used in diagnostics since its invention. We use it to diagnose respiratory viruses in particular a LOT (how do these "experts" think we've been diagnosing the flu all this time?!) 🩺 ✨ There are two aspects to all diagnostic test accuracy: the test itself, and the rates in a population at the time that helps you work out how likely it is that the test result is correct. For example, if you see an abnormal shadow on a chest x-ray in a smoker who's losing weight, you will be more expectant that that shadow is a cancer than you would if the x-ray was from a young non-smoker not losing weight. Similarly, if Covid rates are very high, a positive test is much more likely to be true; even though the high accuracy of the test itself is no different. @niniandthebrain has a great explainer on this 🩺 ✨ We'd all love an early treatment for Covid but viruses are difficult to treat generally. We often vaccinate against things that are difficult to treat, the pandemic is no different 🩺 ✨We gathered more data about mask use before we started advising their use. Some people can't wear them for very specific reasons. But it's a minimal intervention for most of us that can help reduce the risk of spread 🩺 •	population at the time that helps you work out how likely it is that the test result is correct. For example, if you see an abnormal shadow on a chest x-ray in a smoker who's losing weight, you will be more expectant that that shadow is a cancer than you would if the x-ray was from a young non-smoker not losing weight. Similarly, if Covid rates are very high, a positive test is much more likely to be true; even though the high accuracy of the test itself is no different. We'd all love an early treatment for Covid but viruses are difficult to treat generally. We often vaccinate against things that are difficult to treat, the pandemic is no different We gathered more data about mask use before we started advising their use. Some people can't wear them for very specific reasons. But it's a minimal intervention for most of us that can help reduce the risk of spread • Further tells that the so-called "expert" is not trustworthy: Referencing people not data Dealing in absolutes- almost everything in science & medicine is about likelihoods and risk

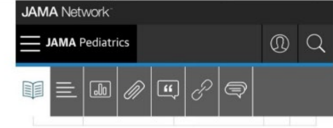
		Further tells that the so-called "expert" is not trustworthy: 👇 ✨ Referencing people not data 👎 ✨ Dealing in absolutes- almost everything in science & medicine is about likelihoods and risk 🩺 • #research #nhs #medic	
DRE4		**Image:** Yes, antivaxxers do still deserve access to healthcare. Here is why … **Caption:** I've seen a lot of this on social media- either people name-calling those in hospital admitting they were misguided to refuse the vaccine, or anger about beds being taken up. And whilst this anger is not entirely misplaced, and the frustration understandable, everyone still deserves access to healthcare. I can promise you I've treated some utterly horrible people in my time but I give them the best care I can. I'm not about to draw the line at people who refused a vaccine, particularly in an age of rampant misinformation. Correct that misinformation when you see it but please remember that this is not a race to the bottom. The world is divided enough without us trying to decide who we think 'deserves' healthcare and who doesn't. That's a dangerous path to start treading… ❤️	I can promise you I've treated some utterly horrible people in my time but I give them the best care I can. I've seen a lot of this on social media- either people name-calling those in hospital admitting they were misguided to refuse the vaccine, or anger about beds being taken up.

DRE5		**Image**: Text on a purple and pink background. 4 text boxes in pink + text on purple background. Heading: UK & US: Vaccine courses vs. Boosters Textbox 1: People who are severely immunocompromised+ [Graphic: 3 syringe icons + 1 syringe icon] Textbox 1 (below the 3 syringe icons): Primary course is THREE doses*; preferably the third dose is at a point when immune system is healthiest/ least compromised. Textbox 2 (below the 1 syringe icon): Booster dose is 6 months after third dose for all in this group. Textbox 3: *This is NOT a booster and you DO NOT NEED TO WAIT 6 MONTHS FOR A THIRD DOSE in this group. Text on purple background: UK: the third primary dose is at least 8 weeks after dose 2 regardless of the vaccine. US: the thrid primary dose is at least 28 days after dose 2 +Each country defines this group slightly differently- please check with your procider. @dresmeralda **Caption:** If you are part of the (moderately to) severely immunosuppressed group, your third vaccine dose is *not* a booster so you don't need to wait 6 months after dose 2 for it in the UK or the US. It's the same vaccine, but your third dose is part of your "primary course" and you should think of it as your baseline doses and not be made to wait. A later fourth dose would be your booster. This is important as I'm aware a few people are struggling to get this	People who are severely immunocompromised+ Primary course is THREE doses*; preferably the third dose is at a point when immune system is healthiest/ least compromised. Booster dose is 6 months after third dose for all in this group. *This is NOT a booster and you DO NOT NEED TO WAIT 6 MONTHS FOR A THIRD DOSE in this group. UK: the third primary dose is at least 8 weeks after dose 2 regardless of the vaccine. US: the thrid primary dose is at least 28 days after dose 2 +Each country defines this group slightly differently- please check with your procider. If you are part of the (moderately to) severely immunosuppressed group, your third vaccine dose is *not* a booster so you don't need to wait 6 months after dose 2 for it in the UK or the US. It's the same vaccine, but your third dose is part of your "primary course" and you should think of it as your baseline doses and not be made to wait. A later fourth dose would be your booster. Both the US and UK have slightly different lists so please check with FDA/CDC and JCVI to see if you're in this group In the UK, Pfizer is the vaccine of choice, regardless of the first 2 doses (even for the group above). You can still opt for other vaccines if available at your local provider. For Moderna,

		message across to their providers (who are forgivably busy and doing well at coordinating a complex roll out, so do help them to help you). Both the US and UK have slightly different lists so please check with FDA/CDC and JCVI to see if you're in this group. 👍 • In the UK, Pfizer is the vaccine of choice, regardless of the first 2 doses (even for the group above). You can still opt for other vaccines if available at your local provider. For Moderna, both countries are using the half-dose option 🙌 • #science #instascience #publicserviceannouncement #scicommer #info #infographic #research #globalhealth #wednesdaywisdom	both countries are using the half-dose option
Dr Izzy Smith			
IS1	'I'm not a respected source of information': $100M Spotify podcast star Joe Rogan backtracks after saying young people should NOT get the COVID vaccine: Says Dr. Fauci is right and 'I'm a f***ing moron' By Adam Schrader For Dailymail.Com 22:38 29 Apr 2021, updated 01:10 30 Apr 2021	**Image:** *Online newspaper screenshot:* 'I'm not a respected source of information': $100M Spotify podcast star Joe Rogan backtracks after saying young people should NOT get the COVID vaccine: Says Dr. Fauci is right and 'I'm a f***ing moron' By Adam Schrader For Dailymail.Com 22:28 29 Apr 2021, updated 01:30 30 Apr 2021 Two pictures portraying a man in a radio studio. Text by Instagram: (i) COVID-19-vaksiner går gjennom mange tester for sikkerhet og effektivitet før de godkjennes, og deretter overvåkes de nøye. Kilde: Verdens helseorganisasjon (WHO) **Caption:** Joe Rogan is a comedian who has one of, if not, the most successful podcast, with millions of listeners	*Online newspaper screenshot:* 'I'm not a respected source of information': $100M Spotify podcast star Joe Rogan backtracks after saying young people should NOT get the COVID vaccine: Says Dr. Fauci is right and 'I'm a f***ing moron' By Adam Schrader For Dailymail.Com 22:28 29 Apr 2021, updated 01:30 30 Apr 2021 Two pictures portraying a man in a radio studio. Joe Rogan is a comedian who has one of, if not, the most successful podcast, with millions of listeners each episode. Joe recently said on an episode, that if he was young and healthy, he wouldn't get the Covid vaccine. There was a pretty big outcry. Apart from that

		each episode. Some guests are good, but often the “health” episodes are people pushing ideas that don’t have much, if any scientific backing (e.g. the carnivore diet) and make claims based on wild speculation and call it “critical thinking”. I am all about questioning the assumed, striving for more, and thinking outside the box; but making claims you can’t back up is lying and giving advice that’s potentially dangerous with no accountability, is not ok. Joe recently said on an episode, that if he was young and healthy, he wouldn’t get the Covid vaccine. There was a pretty big outcry. Apart from that the risk of dying from Covid even if you’re young is still much higher than side effects from even the vaccines that have been pulled, the vaccine also reduces transmission, so keeps other people safe. In AU we’ve been pretty bloody blessed and it’s easy to forget the significance of this virus.. However, the current heartbreaking situation in India or that in the US 1/800 have died from Covid, is a rapid reminder how real it is, + the importance of vaccination. Joe was big enough to publicly say he fucked up, and what he said was dumb. I respect him for that.. Most don’t. Celebrities often seem to think they’re part of some magical exclusive club that know more than scientists, doctors, or medical associations, and it’s	the risk of dying from Covid even if you’re young is still much higher than side effects from even the vaccines that have been pulled, the vaccine also reduces transmission, so keeps other people safe. However, the current heartbreaking situation in India or that in the US 1/800 have died from Covid, is a rapid reminder how real it is, + the importance of vaccination.

		become ok to share with no accountability, total rubbish to their millions of followers like prophecy. As I said, most celebrities when pulled up by actual experts rarely admit being wrong… And unfortunately, the media just keeps on giving them a platform (makes $$) which just perpetuates the problem. We have the likes of @mirandakerr do lives with the biggest charlatan of all, aka the medical medium (celery juice guy) or @gwynethpaltrow promoting vaginal steaming or you only need sunscreen on the tip of your nose… And somehow "health" +wellness magazines just keep giving them platforms to spread their rubbish. Rant done. Remember critical thinking is good.. Just also be critical of where your sources of information are coming from.	
IS2	COVID-19 vaccines and pregnancy 🤰💛🎉	**Images:** **Image 2: *Screenshot.*** JAMA Network JAMA Pediatrics Original Investigation April 22, 2021 Maternal and Neonatal Morbidity and Mortality Among Pregnant Women With and Without COVID-Infection The INTERCOVID Multinational Cohort Study José Villar, MD, Shabina Ariff, MD, Robert B. Gunier, PhD, et. al. **Image 3: *Screenshot.*** Results. A total of 706 pregnant women with COVID-19 diagnosis and 1424 pregnant women without COVID-19 diagnosis were	**Image 2: *Screenshot.*** JAMA Network JAMA Pediatrics Original Investigation April 22, 2021 Maternal and Neonatal Morbidity and Mortality Among Pregnant Women With and Without COVID-Infection The INTERCOVID Multinational Cohort Study José Villar, MD, Shabina Ariff, MD, Robert B. Gunier, PhD, et. al. **Image 3: *Screenshot.*** Results. A total of 706 pregnant women with COVID-19 diagnosis and 1424 pregnant women without COVID-19 diagnosis were enrolled, all with broadly similar

	 Original Investigation April 22, 2021 **Maternal and Neonatal Morbidity and Mortality Among Pregnant Women With and Without COVID-19 Infection** The INTERCOVID Multinational Cohort Study José Villar, MD[1,2]; Shabina Ariff, MD[3]; Robert B. Gunier, PhD[4]; et al **Results** A total of 706 pregnant women with COVID-19 diagnosis and 1424 pregnant women without COVID-19 diagnosis were enrolled, all with broadly similar demographic characteristics (mean [SD] age, 30.2 [6.1] years). Overweight early in pregnancy occurred in 323 women (48.6%) with COVID-19 diagnosis and 554 women (40.2%) without. Women with COVID-19 diagnosis were at higher risk for preeclampsia/eclampsia (relative risk [RR], 1.76; 95% CI, 1.27-2.43), severe infections (RR, 3.38; 95% CI, 1.63-7.01), intensive care unit admission (RR, 5.04; 95% CI, 3.13-8.10), maternal mortality (RR, 22.3; 95% CI, 2.88-172), preterm birth (RR, 1.59; 95% CI, 1.30-1.94), medically indicated preterm birth (RR, 1.97; 95% CI, 1.56-2.51), severe neonatal morbidity index (RR, 2.66; 95% CI, 1.69-4.18), and severe perinatal morbidity and mortality index (RR, 2.14; 95% CI, 1.66-2.75). Fever and shortness of breath for any duration was associated with increased risk of severe maternal complications (RR, 2.56; 95% CI, 1.92-3.40) and neonatal complications (RR, 4.97; 95% CI, 2.11-11.69). Asymptomatic women with COVID-19 diagnosis remained at higher risk only for maternal morbidity (RR, 1.24; 95% CI, 1.00-1.54) and preeclampsia (RR, 1.63; 95% CI, 1.01-2.63). Among women who tested positive (98.1% by real-time polymerase chain reaction), 54 (13%) of their neonates tested positive. Cesarean delivery (RR, 2.15; 95% CI, 1.18-3.91) but not breastfeeding (RR, 1.10; 95% CI, 0.66-1.85) was associated with increased risk for neonatal test positivity.	enrolled, all with broadly similar demographic characteristics (mean [SD] age, 30.2 [6.1] years). Overweight early in pregnancy occurred in 323 women (48.6%) with COVID-19 diagnosis and 554 women (40.2%) without. Women with COVID-19 diagnosis were at higher risk for preeclampsia/eclampsia (relative risk [RR], 1.76; 95% CI, 1.27-2.43), severe infections (RR, 3.38; 95% CI, 1.63-7.01), intensive care unit admission (RR, 5.04; 95% CI, 3.13-8.10), maternal mortality (RR, 22.3; 95% CI, 2.88-172), preterm birth (RR, 1.59; 95% CI, 1.30-1.94), medically indicated preterm birth (RR, 1.97; 95% CI, 1.56-2.51), severe neonatal morbidity index (RR, 2.66; 95% CI, 1.69-4.18), and severe perinatal morbidity and mortality index (RR, 2.14; 95% CI, 1.66-2.75). Fever and shortness of breath for any duration was associated with increased risk of severe maternal complications (RR, 2.56; 95% CI, 1.92-3.40) and neonatal complications (RR, 4.97; 95% CI, 2.11-11.69). Asymptomatic women with COVID-19 diagnosis remained at higher risk only for maternal morbidity (RR, 1.24; 95% CI, 1.00-1.54) and preeclampsia (RR, 1.63; 95% CI, 1.01-2.63). Among women who tested positive (98.1% by real-time polymerase chain reaction), 54 (13%) of their neonates tested positive. Cesarean delivery (RR, 2.15; 95% CI, 1.18-3.91) but not breastfeeding (RR, 1.10; 95% CI, 0.66-1.85) was associated with increased risk for neonatal test positivity. **Image 4): *Screenshot.*** Progressive Increase in Virulence of Novel SARS-CoV-2 Variants in Ontario, Canada David N. Fisman, Ashleigh R. Tuite doi: https://doi.org/10.1101/2021.07.05.21260050 This article is a preprint and has not been peer-reviewed [what does this mean?]. It reports new	demographic characteristics (mean [SD] age, 30.2 [6.1] years). Overweight early in pregnancy occurred in 323 women (48.6%) with COVID-19 diagnosis and 554 women (40.2%) without. Women with COVID-19 diagnosis were at higher risk for preeclampsia/eclampsia (relative risk [RR], 1.76; 95% CI, 1.27-2.43), severe infections (RR, 3.38; 95% CI, 1.63-7.01), intensive care unit admission (RR, 5.04; 95% CI, 3.13-8.10), maternal mortality (RR, 22.3; 95% CI, 2.88-172), preterm birth (RR, 1.59; 95% CI, 1.30-1.94), medically indicated preterm birth (RR, 1.97; 95% CI, 1.56-2.51), severe neonatal morbidity index (RR, 2.66; 95% CI, 1.69-4.18), and severe perinatal morbidity and mortality index (RR, 2.14; 95% CI, 1.66-2.75). Fever and shortness of breath for any duration was associated with increased risk of severe maternal complications (RR, 2.56; 95% CI, 1.92-3.40) and neonatal complications (RR, 4.97; 95% CI, 2.11-11.69). Asymptomatic women with COVID-19 diagnosis remained at higher risk only for maternal morbidity (RR, 1.24; 95% CI, 1.00-1.54) and preeclampsia (RR, 1.63; 95% CI, 1.01-2.63). 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	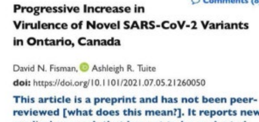 Comments (8) **Progressive Increase in Virulence of Novel SARS-CoV-2 Variants in Ontario, Canada** David N. Fisman, Ashleigh R. Tuite **doi:** https://doi.org/10.1101/2021.07.05.21260050 **This article is a preprint and has not been peer-reviewed [what does this mean?]. It reports new medical research that has yet to be evaluated and so should *not* be used to guide clinical practice.** Abstract Full Text Info/History Metrics Preview PDF **Abstract** **Background** The period from February to June 2021 was one during which initial wild-type SARS-CoV-2 strains were supplanted in Ontario, Canada, first by variants of concern (VOC) with the N501Y mutation (Alpha/B1.1.17, Beta/B.1.351 and Gamma/P.1 variants), and then by the Delta/B.1.617 variant. The increased transmissibility of these VOCs has been documented but data for increased virulence is limited. We used Ontario's COVID-19 case data to evaluate the virulence of these VOCs compared to non-VOC SARS-CoV-2 infections, as measured by risk of hospitalization, intensive care unit (ICU) admission, and death. COVID-19-vaksiner går gjennom mange tester for sikkerhet og effektivitet før de godkjennes, og deretter overvåkes de nøye. (Kilde: Verdens helseorganisasjon (WHO)) **Methods** We created a retrospective cohort of people in Ontario testing positive for SARS-CoV-2 and screened for VOCs, with dates of test report between February 7 and June 22, 2021 (n=211,197). We constructed mixed effects logistic regression models with hospitalization, ICU admission, and death as outcome variables. Models were adjusted for age, sex, time, comorbidities, and pregnancy status. Health units were included as random intercepts. **Results** Compared to non-VOC SARS-CoV-2 strains, the adjusted elevation in risk associated with N501Y-positive variants was 59% (49-69%) for hospitalization; 105% (82-134%) for ICU admission; and 61% (40-87%) for death. Increases with Delta variant were more pronounced: 120% (93-153%) for hospitalization; 287% (198-399%) for ICU admission; and 137% (50-230%) for death. **Interpretation** The progressive increase in transmissibility and virulence of SARS-CoV-2 VOCs will result in a significantly larger, and more deadly, pandemic than would have occurred in the absence of VOC emergence.	medical research that has yet to be evaluated and so should *not* be used to guide clinical practice. Abstract. Full Text. Info/History. Metrics. Preview PDF. Abstract. Background. The period from February to June 2021 was one during which initial wild-type SARS-CoV-2 strains were supplanted in Ontario, Canada, first by variants of concern (VOC) with the N501Y mutation (Alpha/B1.1.17, Beta/B.1.351 and Gamma/P.1 variants), and then by the Delta/B.1.617 variant. The increased transmissibility of these VOCs has been documented but data for increased virulence is limited. We used Ontario's COVID-19 case data to evaluate the virulence of these VOCs compared to non-VOC SARS-CoV-2 infections, as measured by risk of hospitalization, intensive care unit (ICU) admission, and death. **Image 5: *Screenshot.*** Methods We created a retrospective cohort of people in Ontario testing positive for SARS-CoV-2 and screened for VOCs, with dates of test report between February 7 and June 27, 2021 (n=212,332). We constructed mixed effects logistic regression models with hospitalization, ICU admission, and death as outcome variables. Models were adjusted for age, sex, time, vaccination status, comorbidities, and pregnancy status. Health units were included as random intercepts. Results Compared to non-VOC SARS-CoV-2 strains, the adjusted elevation in risk associated with N501Y-positive variants was 52% (43-62%) for hospitalization; 89% (67-116%) for ICU admission; and 51% (30-74%) for death. Increases with Delta variant were more pronounced: 108% (80-138%) for hospitalization; 234% (164-331%) for ICU admission;	This article is a preprint and has not been peer-reviewed [what does this mean?]. It reports new medical research that has yet to be evaluated and so should *not* be used to guide clinical practice. Abstract. Full Text. Info/History. Metrics. Preview PDF. Abstract. Background. 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Models were adjusted for age, sex, time, vaccination status, comorbidities, and pregnancy status. Health units were included as random intercepts. Results Compared to non-VOC SARS-CoV-2 strains, the adjusted elevation in risk associated

	RESULTS A total of 35,691 v-safe participants 16 to 54 years of age identified as pregnant. Injection-site pain was reported more frequently among pregnant persons than among nonpregnant women, whereas headache, myalgia, chills, and fever were reported less frequently. Among 3958 participants enrolled in the v-safe pregnancy registry, 827 had a completed pregnancy, of which 115 (13.9%) resulted in a pregnancy loss and 712 (86.1%) resulted in a live birth (mostly among participants with vaccination in the third trimester). Adverse neonatal outcomes included preterm birth (in 9.4%) and small size for gestational age (in 3.2%); no neonatal deaths were reported. Although not directly comparable, calculated proportions of adverse pregnancy and neonatal outcomes in persons vaccinated against Covid-19 who had a completed pregnancy were similar to incidences reported in studies involving pregnant women that were conducted before the Covid-19 pandemic. Among 221 pregnancy-related adverse events reported to the VAERS, the most frequently reported event was spontaneous abortion (46 cases). **CONCLUSIONS** Preliminary findings did not show obvious safety signals among pregnant persons who received mRNA Covid-19 vaccines. However, more longitudinal follow-up, including follow-up of large numbers of women vaccinated earlier in pregnancy, is necessary to inform maternal, pregnancy, and infant outcomes.	and 132% (47-230%) for death. Interpretation The progressive increase in transmissibility and virulence of SARS-CoV-2 VOCs will result in a significantly larger, and more deadly, pandemic than would have occurred in the absence of VOC emergence. **Image 6:** ***Screenshot.*** The New England Journal of Medicine. Editor's Note: This article was published on April 21, 2021, at NEJM.org ORIGINAL ARTICLE Preliminary Findings of mRNA Covid-19 Vaccine Safety in Pregnant Persons List of authors. Tom T. Shimabukuro, M.D., Shin Y. Kim, M.P.H., Tanya R. Myers, Ph.D., Pedro L. Moro, M.D., Titilope Oduyebo, M.D., Lakshmi Panagiotakopoulos, M.D., Paige L. Marquez, M.S.P.H., Christine K. Olson, M.D., Ruiling Liu, Ph.D., Karen T. Chang, Ph.D., Sascha R. Ellington, Ph.D., Veronica K. Burkel, M.P.H., et al., for the CDC v-safe COVID-19 Pregnancy Registry Team* June 17, 2021 N Engl J Med 2021; 384:2273-2282 DOI: 10.1056/NEJMoa2104983 Chinese Translation 中文翻译 Article Figures/Media Metrics **Image 7:** *Screenshot.* RESULTS A total of 35,691 v-safe participants 16 to 54 years of age identified as pregnant. Injection-site pain was reported more frequently among pregnant persons than among nonpregnant women, whereas headache, myalgia, chills, and fever were reported less frequently.	with N501Y-positive variants was 52% (43-62%) for hospitalization; 89% (67-116%) for ICU admission; and 51% (30-74%) for death. Increases with Delta variant were more pronounced: 108% (80-138%) for hospitalization; 234% (164-331%) for ICU admission; and 132% (47-230%) for death. Interpretation The progressive increase in transmissibility and virulence of SARS-CoV-2 VOCs will result in a significantly larger, and more deadly, pandemic than would have occurred in the absence of VOC emergence. **Image 6:** ***Screenshot.*** The New England Journal of Medicine. Editor's Note: This article was published on April 21, 2021, at NEJM.org ORIGINAL ARTICLE Preliminary Findings of mRNA Covid-19 Vaccine Safety in Pregnant Persons List of authors. Tom T. Shimabukuro, M.D., Shin Y. Kim, M.P.H., Tanya R. Myers, Ph.D., Pedro L. Moro, M.D., Titilope Oduyebo, M.D., Lakshmi Panagiotakopoulos, M.D., Paige L. Marquez, M.S.P.H., Christine K. Olson, M.D., Ruiling Liu, Ph.D., Karen T. Chang, Ph.D., Sascha R. Ellington, Ph.D., Veronica K. Burkel, M.P.H., et al., for the CDC v-safe COVID-19 Pregnancy Registry Team* June 17, 2021 N Engl J Med 2021; 384:2273-2282 DOI: 10.1056/NEJMoa2104983 Chinese Translation 中文翻译 Article Figures/Media Metrics

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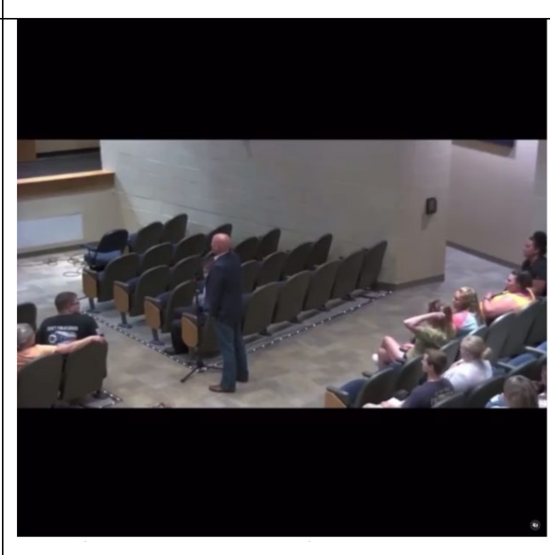
		or death. Therefore, all major OBGYN organisations worldwide are advocating the importance of vaccination in Covid-19 because they want the best for their patients🙏 What about miscarriage risk? 1 in 4 pregnancies result in miscarriage and they are usually from a chromosomal abnormality that are not compatible with a viable pregnancy. With something as common as 1 in 4, the only way to know if the vaccine increases the risk of miscarriage is via cohort studies. So far in studies of women who received a Covid-19 vaccine during pregnancy, rates of pregnancy loss were the same as non-vaccinated pre-covid cohorts. If 25% of pregnancies result in a miscarriage, of course some are going to occur in people who’ve been vaccinated. This being recorded e.g., by TGA does not mean we think there is causation, more that safety is being scrupulously investigated. If there were concerns, they would not be being hidden. The 1 in million mortality risk of AZ is evidence of this. Pfizer cannot promise there is no long-term side-effects because there simply has not been a long time. However, this is not evidence that they are unsafe, and we know vaccines do not cause long-term side effects. Ideally it would definitely be great to have ten years of safety data, but we are in the midst of the world’s worst pandemic in 100 years and Covid-19 results in	Pfizer is the only vaccine recommended in pregnancy in AustraliaAU Looking at pregnancy complications, a study published in JAMA demonstrated Covid-19 was associated with a 1.7 x risk of pre-eclampsia, 5.04 x risk of ICU admission, 22.3 x more likely to die, and 2.14 x likely to have severe neo-natal complications or death. Therefore, all major OBGYN organisations worldwide are advocating the importance of vaccination in Covid-19 because they want the best for their patients. What about miscarriage risk? 1 in 4 pregnancies result in miscarriage and they are usually from a chromosomal abnormality that are not compatible with a viable pregnancy. With something as common as 1 in 4, the only way to know if the vaccine increases the risk of miscarriage is via cohort studies. So far in studies of women who received a Covid-19 vaccine during pregnancy, rates of pregnancy loss were the same as non-vaccinated pre-covid cohorts. If 25% of pregnancies result in a miscarriage, of course some are going to occur in people who’ve been vaccinated. This being recorded e.g., by TGA does not mean we think there is causation, more that safety is being scrupulously investigated. If there were concerns, they would not be being hidden. The 1 in million mortality risk of AZ is evidence of this.

		heartbreaking pregnancy complications. Major obstetric organisations comprised of experts passionate about fertility and obstetric care, agree there is no evidence the Covid-19 does or will impacts fertility👶 There is literally a tsunami of completely incorrect information floating about… If you're pregnant or worried about fertility, please speak with your GP or obstetrician on what's right for you💛	Pfizer cannot promise there is no long-term side-effects because there simply has not been a long time. However, this is not evidence that they are unsafe, and we know vaccines do not cause long-term side effects. Major obstetric organisations comprised of experts passionate about fertility and obstetric care, agree there is no evidence the Covid-19 does or will impacts fertility There is literally a tsunami of completely incorrect information floating about… If you're pregnant or worried about fertility, please speak with your GP or obstetrician on what's right for you
IS3		This video has been viewed millions of times and what influencers call "doing their research". I am exhausted, sad, and angry. Please see my debunk and understand why valid recourses are important and why some censorship of utter rubbish has occurred. 1 Uses authority biases to gain trust. His PHD and articles are is in teaching/school policies not medicine/science and degree is not from Oxford UK, rather a town called Oxford in Miami. The "21 years of studying science" is from being a schoolteacher. He's spread conspiracy theories since the start of the pandemic. 2 Robert Malone did not create the vaccine. He was involved as a junior scientist but dropped out of the PhD program to work at a pharmaceutical company and is furious he isn't now getting more credit. He's been vaccinated with a mRNA💉 3 Die in next 6 months-3 years. Ridiculous as many	His PHD and articles are is in teaching/school policies not medicine/science and degree is not from Oxford UK, rather a town called Oxford in Miami. The "21 years of studying science" is from being a schoolteacher. He's spread conspiracy theories since the start of the pandemic. 2 Robert Malone did not create the vaccine. He was involved as a junior scientist but dropped out of the PhD program to work at a pharmaceutical company and is furious he isn't now getting more credit. He's been vaccinated with a mRNA💉 3 Die in next 6 months-3 years. Ridiculous as many people have been vaccinated for over a year. 4 Immune system by 15 – 35%. This is a made-up stat that talks about the immune system like it's a static object. Vaccines actually strengthen the immune system and why auto-immune diseases are a rare side effect.

		people have been vaccinated for over a year. 4 Immune system by 15 – 35%. This is a made-up stat that talks about the immune system like it's a static object. Vaccines actually strengthen the immune system and why auto-immune diseases are a rare side effect. 5 People e.g. me, have had flu + covid shots and aren't dead. 6 Antibody dependent enhancement. This occurs naturally in some infections e.g. Dengue fever and there were rare cases from vaccines in the 1960s. Technology has obviously improved and there are no cases or evidence of ADE with covid-19 vaccines. 7 D-dimer test. I use this test frequently as a doctor and its only benefit is to rule out a clot. A positive test does not diagnose thromboembolism. 8 Millions have not died. Death from AZ is around 1/million and even rarer for mRNA vaccines. 9 Using shame to induce fear in parents. Despicable. 10 80% miscarriages = incorrect. A recent study of 2500 women vaccinated before 20 weeks showed no increase risk of miscarriage. 11 Nil changes in fertility seen or scientific plausibility for this, and safe in breast-feeding. 13 Blood donations. You need to wait 1 week after vaccination. This is standard e.g., Hep B vaccine is a 2 week wait. 14 Spike protein is not in the actual vaccine. 15 No longer human. Lol cult-like.	5 People e.g. me, have had flu + covid shots and aren't dead. 6 Antibody dependent enhancement. This occurs naturally in some infections e.g. Dengue fever and there were rare cases from vaccines in the 1960s. Technology has obviously improved and there are no cases or evidence of ADE with covid-19 vaccines. 7 D-dimer test. I use this test frequently as a doctor and its only benefit is to rule out a clot. A positive test does not diagnose thromboembolism. 8 Millions have not died. Death from AZ is around 1/million and even rarer for mRNA vaccines. 10 80% miscarriages = incorrect. A recent study of 2500 women vaccinated before 20 weeks showed no increase risk of miscarriage. 11 Nil changes in fertility seen or scientific plausibility for this, and safe in breast-feeding. 13 Blood donations. You need to wait 1 week after vaccination. This is standard e.g., Hep B vaccine is a 2 week wait. 14 Spike protein is not in the actual vaccine.

IS4	 Doctor Izzy Smith @SmithIzzy If influencers cared about your mental health, they would not be be spreading misinformation about the Covid-19 vaccine or dismissing the efficacy of public health measures.	**Image:** *(Screenshot from Twitter*) *[Picture of a blonde woman with glasses, presumably a profile picture of the author]* Doctor Izzy Smith @SmithIzzy If influencers cared about your mental health, they would not be be spreading misinformation about the Covid-19 vaccine or dismissing the efficacy of public health measures. **Caption**: Influencers have done all type of awesome things during the pandemic like compare lockdowns to Nazi Germany, shame Men as not being “Real Men” if they comply to public health measures such as wearing a mask (i.e. a slight personal inconvenience to help protect vulnerable people) or capitalise on the tragic death of a teenage boy from a cardiac arrest by claiming it was a side-effect of a vaccine. Some people literally will stop at nothing to push their agenda with absolutely no accountability for the preventable deaths they will cause. They have now jumped on the mental health train despite not seeming to have cared about vulnerable people prior to the pandemic. We know the mental health impacts of lockdowns are severe, especially for young people and we need hope and an exit plan. This is important as loosing people and loved ones from a combination of Covid-19 and then completely full hospitals will also not be good for people’s mental health or service provision in the mental health space. Sydney hospitals are already	We know the mental health impacts of lockdowns are severe, especially for young people and we need hope and an exit plan. This is important as loosing people and loved ones from a combination of Covid-19 and then completely full hospitals will also not be good for people’s mental health or service provision in the mental health space. Sydney hospitals are already starting to struggle, and regular health care impacted. Essentially a dooms day scenario with no solution but ivermectin e.g. a medication that probably doesn’t help covid and is teratogenic in pregnancy.

		starting to struggle, and regular health care impacted. However these particular influencers aren't offering hope. They are claiming that people should not be vaccinated and the lockdowns haven't been effective at halting the spread of Covid-19. Essentially a dooms day scenario with no solution but ivermectin e.g. a medication that probably doesn't help covid and is teratogenic in pregnancy. Having worked in in challenging areas of medicine I know that nothing is more important than hope and rage does not help. If these influencers really cared about your mental health, they would be instilling hope and trying to see what they can do to support their community rather than inciting fear and anger. Please listen to health care professionals, write to local MPs, support your community, and know we will get through this and please for the love of god stop following influencers who think the ability to read a medication insert makes them qualified to give health advice🙏	

IS5	Is making more ICU beds a good COVID-19 solution or alternative to vaccination💉👩‍⚕️? Morbidity and Mortality Weekly Report (*MMWR*) Monitoring Incidence of COVID-19 Cases, Hospitalizations, and Deaths, by Vaccination Status — 13 U.S. Jurisdictions, April 4–July 17, 2021	**Images:** **Image 1)**: Is making more ICU-beds a good COVID-19 solution or alternative to vaccination? **Image 2)**: *Screenshot*. CDC Centers for Disease Control and Prevention. Morbidity and Mortality Weekly Report (*MMWR)* Monitoring Incidence of COVID-19 Cases. Hospitalizations, and Deaths, by Vaccination Status – 13 U.S. jurisdictions. April 4 – July 17, 2021 **Image 3)**: *Screenshot.* Changes in in-hospital mortality in the first wave of COVID-19: a multicentre prospective observational cohort study using the WHO Clinical Characterisation Protocol UK. Annemarie B Docherty, PhD Rachel H Mulholland, MSci, Nazir I Lone, PhD Christopher P Cheyne, PhD, Daniela De Angelis, PhD Karla Diaz-Ordaz, PhD et al. Show all authors. Show footnotes. Open access. Published May 14, 2021. DOI: https://doi.org/10.1016/S2213-2600(21)00175-2 **Image 4): ***Screenshot.* Article. Open Access. Published: 06 September 2021. Outcomes of COVID-19 patients intubated after failure of non-invasive ventilation: a multicenter observational study Annalisa Boscolo1, Laura Pasin1 […] FERS, for the COVID-19 VENETO ICU Network. *Scientific Reports* 11. Article number 17730 (2021). Cite this article. 8787 Accesses. 4 Altmetric. Metrics. Abstract. We've seen that people against Covid-19 vaccination, are typically vocally against having lockdowns and when asked what their alternate solution is, it's often "Make more hospital beds".	**Image 1)**: Is making more ICU-beds a good COVID-19 solution or alternative to vaccination? **Image 2)**: *Screenshot*. CDC Centers for Disease Control and Prevention. Morbidity and Mortality Weekly Report (*MMWR)* Monitoring Incidence of COVID-19 Cases. Hospitalizations, and Deaths, by Vaccination Status – 13 U.S. jurisdictions. April 4 – July 17, 2021 **Image 3)**: *Screenshot.* Changes in in-hospital mortality in the first wave of COVID-19: a multicentre prospective observational cohort study using the WHO Clinical Characterisation Protocol UK. Annemarie B Docherty, PhD Rachel H Mulholland, MSci, Nazir I Lone, PhD Christopher P Cheyne, PhD, Daniela De Angelis, PhD Karla Diaz-Ordaz, PhD et al. Show all authors. Show footnotes. Open access. Published May 14, 2021. DOI: https://doi.org/10.1016/S2213-2600(21)00175-2 **Image 4): ***Screenshot.* Article. Open Access. Published: 06 September 2021. Outcomes of COVID-19 patients intubated after failure of non-invasive ventilation: a multicenter observational study Annalisa Boscolo1, Laura Pasin1 […] FERS, for the COVID-19 VENETO ICU Network. *Scientific Reports* 11. Article number 17730 (2021). Cite this article. 8787 Accesses. 4 Altmetric. Metrics. Abstract. Then logistically… ICU beds are useless if there's no staff. ICU beds require at least 1 on 1 nursing

ARTICLES | VOLUME 9, ISSUE 7, P773-785, JULY 01, 2021

Changes in in-hospital mortality in the first wave of COVID-19: a multicentre prospective observational cohort study using the WHO Clinical Characterisation Protocol UK

Annemarie B Docherty, PhD • Rachel H Mulholland, MSci • Nazir I Lone, PhD • Christopher P Cheyne, PhD • Daniela De Angelis, PhD • Karla Diaz-Ordaz, PhD • et al. Show all authors

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Article | Open Access | Published: 06 September 2021

Outcomes of COVID-19 patients intubated after failure of non-invasive ventilation: a multicenter observational study

Annalisa Boscolo, Laura Pasin, [...] FERS, for the COVID-19 VENETO ICU Network

Scientific Reports **11**, Article number: 17730 (2021) | Cite this article

8787 Accesses | **4** Altmetric | Metrics

Abstract

I am going to discuss why this should only ever be a crisis last resort due to;

1 Efficacy and patient outcomes.
2 Logistics of hospital and ICU beds.

Firstly,

A study from Nature looked at 25 ICUs and found of people intubated for Covid, the mortality rate was 45%.
A study in the Lancet demonstrated that for anyone hospitalised for covid-19, the mortality rate was 11-33%, depending on the population considered (age, ethnicities, comorbidities).

So, if our solution is to make more hospital beds rather than have people vaccinated, if they end up intubated in ICU they will have a roughly 50% chance of dying or 1/10 to 1/3 if hospitalised.
This is equivalent to say rather than public health measures to stop drink driving or speeding, we should invest in better trauma hospitals (sounds like a good ploy by "big trauma").

Versus if someone gets vaccinated, a CDC study demonstrated if you are vaccinated you are 5 x less likely to catch covid and 11 times less likely to die. We are seeing this clinically with as of the 22nd of Sep, NSW has had had no one die under the age of 70 who'd received both vaccines.

Then logistically… ICU beds are useless if there's no staff. ICU beds require at least 1 on 1 nursing and ICU nursing is highly specialised requiring at least 12 months additional post-graduate study and training.

and ICU nursing is highly specialised requiring at least 12 months additional post-graduate study and training.
Each ICU bed would require at least 3 nurses/24 hours + days off. Therefore 200 beds would be at least 800 ICU nurses.
Already NSW/VIC ICU's are struggling to staff units, that's not to mention doctors, the approximately $4500 cost/day of having someone in ICU or that rural hospitals don't have ICUs (locum work rurally has taught me this nightmare).

		Each ICU bed would require at least 3 nurses/24 hours + days off. Therefore 200 beds would be at least 800 ICU nurses. Already NSW/VIC ICU's are struggling to staff units, that's not to mention doctors, the approximately $4500 cost/day of having someone in ICU or that rural hospitals don't have ICUs (locum work rurally has taught me this nightmare). So claims the solution to Covid rather than vaccines is more hospitals, is naïve and shows considerable lack of care for people from rural areas or with medical conditions that increase their risk of severe covid, or anyone one else requiring non-COVID medical care. #Getvaccinated	

Appendix 2

Re: Information about the research project «Instagram in a professional context: A study of medical professionals' COVID-19-related Instagram posts».

Fra: Farah Shahi (f.shahi@sheffield.ac.uk)

Til: elisabethrongved@yahoo.no

Dato: mandag 16. mai 2022, 15:17 CEST

Dear Elisabeth Rongved,

Many thanks for your email and good luck with your project. More than happy to give comment later if needed. I've also in the last year started collecting feedback/thank-yous from followers so I'm happy to anonymously supply those screenshots if needed.

Unfortunately I've been slightly quiet recently due to my own PhD demands so I hope the retrospective is helpful at least! :)

Thanks,

Farah

Dr. Farah Shahi MBChB BMedSci(Hons) DTM&H MRCP(UK)
Clinical Research Fellow in Infection
Clinical Infection Research Group
Dept of Infection, Immunity and Cardiovascular Disease
University of Sheffield Medical School
S10 2RX

> On 14 May 2022, at 12:35, Elisabeth Rongved <elisabethrongved@yahoo.no> wrote:
>
> Elisabeth Rongved

Re: Information about the research project «Instagram in a professional context: A study of medical professionals' COVID-19-related Instagram posts».

Fra: Izzy Smith (doctorizzysmith@gmail.com)

Til: elisabethrongved@yahoo.no

Dato: søndag 15. mai 2022, 01:12 CEST

Hi Elisabeth,

I would happy to provide comments.
I think it is great that there is being some recognition of all the work so many doctors did on social media to discuss covid and covid vaccines etc.

Please keep in email contact.
Kind regards, Izzy

> On Sat, May 14, 2022 at 9:30 PM Elisabeth Rongved <elisabethrongved@yahoo.no> wrote:
>
> > Dear Dr Smith,
> >
> > I am a Norwegian masters student in Professional language and communication at the Department of Language and Literature - Norwegian University of Science and Technology (NTNU).
> >
> > I am writing to inform you that I have chosen posts from your Instagram page for my master thesis, which investigates Instagram in a professional context.
> > This is a qualitative study where I will use discourse analysis in investigating Instagram posts by selected medical professionals who have published content related to the COVID-19 vaccine.
> > The thesis will be completed in Spring 2023. This project does not require additional participation, my focus is solely on a selection of texts and images related to the COVID-19 vaccine that are published by the participants on IG between January 2021 and February 2022.
> >
> > The Norwegian Centre for Research Data has approved the project. I am not obliged to ask for consent by the participants. I am, however, obliged to inform you that I will be conducting the study and of course, to let you know that you can decline to participate at any time. Please see the attached document for details and your rights to withdraw from participating.
> >
> > I would also like to ask you if you would be interested in offering any comments to my final results (either the entire thesis (which will be in English) or a summary)? The comments would not be included in the thesis, but would be attached to the study, and would serve to increase the quality of the work - and it would of course also be interesting to me personally to hear your opinion on my findings.
> >
> > Please do not hesitate to contact me if you have any questions!
> >
> > Kind regards,
> > Elisabeth Rongved
> > Stavanger
> > Norway
> > +47 906 70 855

Re: Information about the research project «Instagram in a professional context: A study of medical professionals' COVID-19-related Instagram posts».

Fra: Weight-Neutral Nutrition (nutrition@drwolrich.com)

Til: elisabethrongved@yahoo.no

Dato: mandag 16. mai 2022, 14:04 CEST

Sounds great Elisabeth,

Certainly up for providing comments if I am able and have the time at the later date - keep me updated!

Kind regards,

Joshua

—
Dr Joshua Wolrich BSc (Hons) MSc MBBS MRCS ANutr
AfN Registered Associate Nutritionist at Weight-Neutral Nutrition
www.weightneutralnutrition.com
www.instagram.com/drjoshuawolrich

Mailing List: http://eepurl.com/g37C1T

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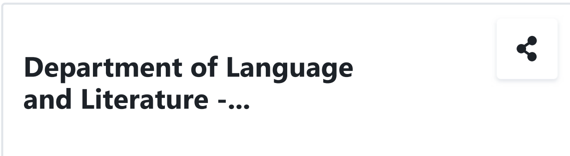
> On 14 May 2022, at 12:26, Elisabeth Rongved <elisabethrongved@yahoo.no> wrote:
>
> Dear Dr Wolrich,
>
> I am a Norwegian masters student in Professional language and communication at the Department of Language and Literature - Norwegian University of Science and Tecnhology (NTNU).
>
> I am writing to inform you that I have chosen posts from your Instagram page for my master thesis, which investigates Instagram in a professional context.
> This is a qualitative study where I will use discourse analysis in investigating Instagram posts by selected medical professionals who have published content related to the COVID-19 vaccine.
> The thesis will be completed in Spring 2023. This project does not require additional participation, my focus is solely on a selection of texts and images related to the COVID-19 vaccine that are published by the participants on IG between January 2021 and February 2022.
>
> The Norwegian Centre for Research Data has approved the project. I am not obliged to ask for consent by the participants. I am, however, obliged to inform you that I will be conducting the study and of course, to let you know that you can decline to participate at any time. Please see the attached document for details and your rights to withdraw from participating.
>
> I would also like to ask you if you would be interested in offering any comments to my final results (either the entire thesis (which will be in English) or a summary)? The comments would not be included in the thesis, but would be attached to the study, and would serve to increase the quality of the work - and it would of course also be interesting to me personally to hear your opinion on my findings.
>
> Please do not hesitate to contact me if you have any questions!
>
> Kind regards,

Elisabeth Rongved
Stavanger
Norway
+47 906 70 855

Koblinger i meldingen (1)



Participation in a masters research project on instagram texts and the covid 19 vaccine.pdf
92.7kB

Appendix 3: Comment from participant

Re: Information about the research project «Instagram in a professional context: A study of medical professionals' COVID-19-related Instagram posts».

Fra: Farah Shahi (f.shahi@sheffield.ac.uk)

Til: elisabethrongved@yahoo.no

Dato: onsdag 7. juni 2023 kl. 10:59 CEST

Hi Elisabeth,

Thanks so much for getting back to us with the results- I was actually only thinking of you the other day and wondering how you'd got on, especially as I may not have been very helpful lately because I've been too caught up in my own PhD to do much Instagramming without feeling guilty! :-D

What you've picked up even in the short passages you've sent is really interesting so best of luck with it. I agree that it has been very naive of higher powers and institutions to dismiss the relevance and importance of social media for so long and I do think that as a result they had to play a lot of "catch-up" to really combat mis/disinformation in the pandemic. Increasing data, from what I've seen briefly, shows that actually just doing fact-checking does not work and that is usually the go-to plan for institutions- cold, hard fact +/- colourful pictures.

For my own part, it has taken me a long time to find my own "voice" on the platform (still getting there!), and I often only feel like a semi-willing participant! For much of the pandemic it also involved taking on/addressing the anxieties of literally hundreds of people, which at times could be very overwhelming. Compared with medicine, where I would have one-to-one conversations with patients, having a one-to-many discussion that was completely accurate and up to date was also quite daunting (things you say can go viral VERY quickly!). Additionally there was often pressure to be the "first" to discuss or refute a new rumour. And then there's an odd element of celebrity behaviour from the audience towards the creator which also doesn't sit naturally with me in my professional role! People do want to interact with you as a person, and learn about you and your interests and personal life and to feel connected with you as if you're friends- which again, as a medical professional is not quite how I interact with patients: after all, you don't want your best friend intimately examining you if you're sick!!!

To be truly effective on social media (regardless of profession) you have to do 3 things: 1. Be "authentic" (or already famous!) and have your own voice; 2. Provide a service- that can be humour or information or other but it IS **transactional**…; 3. Be creative- funny or artistic or unusual or something akin to it (preferably not over-produced)- in order to convey your points in an interesting way. All of that takes a surprising amount of time actually!

Feel free to use any or none of the above ramblings in your appendix :D

Good luck with it all,

Farah

Dr. Farah Shahi MBChB BMedSci(Hons) DTM&H MRCP(UK)
Clinical Research Fellow in Infection
Clinical Infection Research Group
Dept of Infection, Immunity and Cardiovascular Disease
University of Sheffield Medical School
S10 2RX

On 5 Jun 2023, at 19:42, Elisabeth Rongved <elisabethrongved@yahoo.no> wrote:

<MA summary_for participants.pdf>

Appendix 4

Min merknad: Prosjektet ble godkjent 21.04.2022, men vurderingen er datert 09.06.2023 grunnet søknad om forlengelse av behandling av personopplysninger. Det er en automatisk endring av dato i SIKTs database.

Vurdering av behandling av personopplysninger

Referansenummer	Vurderingstype	Dato
149418	Standard	09.06.2023

Prosjekttittel
Hvordan forskere og leger konstruerer ekspertise og profesjonell identitet i Instagraminnlegg om Covid-19-vaksinen.

Behandlingsansvarlig institusjon
Norges teknisk-naturvitenskapelige universitet / Det humanistiske fakultet / Institutt for språk og litteratur

Prosjektansvarlig
Heidi Gilstad

Student
Elisabeth Emilie Sefranek Rongved

Prosjektperiode
01.01.2022 - 01.08.2023

Kategorier personopplysninger
Alminnelige
Særlige

Lovlig grunnlag
Allmenn interesse eller offentlig myndighet (Personvernforordningen art. 6 nr. 1 bokstav e)
Personopplysninger som det er åpenbart at den registrerte har offentliggjort (Personvernforordningen art. 9 nr. 2 bokstav e)

Behandlingen av personopplysningene er lovlig så fremt den gjennomføres som oppgitt i meldeskjemaet. Det lovlige grunnlaget gjelder til 01.08.2023.

Meldeskjema

Kommentar
Personverntjenester har vurdert endringene registrert i meldeskjemaet.

Det er vår vurdering at behandlingen av personopplysninger i prosjektet vil være i samsvar med personvernlovgivningen så fremt den gjennomføres i tråd med det som er dokumentert i meldeskjemaet med vedlegg. Behandlingen kan fortsette.

ENDRINGER REGISTRERT
Prosjektets behandling av personopplysninger er forlenget til 01.08.2023.

OPPFØLGING AV PROSJEKTET
Vi vil følge opp ved ny planlagt avslutning for å avklare om behandlingen av personopplysningene er avsluttet.

Lykke til videre med prosjektet!

NTNU
Norwegian University of
Science and Technology