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TERMINOLOGY OF THE 2019 CORONAVIRUS AND 2009 H1N1 PANDEMICS

A comparative analysis of disease and virus terms

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Tässä kandidaatintutkielmassa perehdytään vuoden 2019 koronaviruspandemian ja vuoden 2009 influenssapandemian termistöihin. Tutkielman keskiössä ovat pandemioiden viruksista ja sairauksista käytetyt termit sekä niiden käyttö eri medioissa. Tutkielman tarkoituksena on selvittää, millaisia viruksiin ja sairauksiin viittaavia termejä pandemioiden aikana esiintyi, miten näitä termejä käytettiin eri medioissa ja mitkä tekijät vaikuttavat eri termien suosimiseen. Lisäksi pandemioiden termistöjä ja termien käyttöä verrataan toisiinsa, jotta saataisiin selville, miten viruksiin ja sairauksiin viittaavien termien käyttö on pandemioiden välillä muuttunut.

Tutkielman teoreettisen viitekehyksen muodostavat erikoiskielet, terminologia ja lääketieteen terminologia. Taustakirjallisuuden pohjalta tutkielmassa esitellään erikoiskielten käsitettä, erikoiskielen ja yleiskielen välisiä eroja sekä erikoiskielille ominaisia piirteitä. Erikoiskielten osa-alueena käsitellään terminologiaa ja termien muodostamiseen liittyviä yleisiä käytäntöjä. Kirjallisuuskatsauksessa kerrotaan myös lääketieteen terminologiasta sekä erityisesti virusten ja sairauksien nimeämiseen liittyvistä käytänteistä ja niiden muuttumisesta.

Tutkimuksen aineistot kerättiin erilaisten hakukoneiden ja Wayback Machine -arkiston avulla. Aineistoihin valittiin erilaisia tekstejä lääketieteellisten järjestöjen ja instituutioiden verkkosivuilta, lääketieteellisten verkkojulkaisijoiden sivustoilta, uutismedioista sekä disinformaatiosivustoilta. Koronaviruspandemiaan liittyvä aineisto on peräisin vuosilta 2020–2022 ja vuoden 2009 influenssapandemiaan liittyvä aineisto pääosin vuosilta 2009-2010. Tutkimus toteutettiin laadullisella metodilla termejä ja niiden esiintymistä tarkastelemalla ja vertailemalla.

Analyysiosuudessa koronapandemiaan ja vuoden 2009 influenssapandemiaan liittyviä termejä käsiteltiin erillisinä osioinaan, jotta molempien pandemioiden termistöistä saataisiin muodostettua selkeä kokonaiskuva. Aineistoja käsiteltiin ryhmittäin siten, että molempien pandemioiden tapauksessa lääketieteellisten järjestöjen, instituutioiden ja verkkojulkaisijoiden tekstit muodostivat yhden, uutismedioiden tekstit toisen ja disinformaatiosivustojen tekstit kolmannen osion. Aineistoista tutkittiin viruksiin ja sairauksiin liittyviä termejä sekä niiden käyttöä eri konteksteissa. Huomiota kiinnitettiin sekä virallisten että epävirallisten termien käyttöön, joita aineistosta nostettiin esille. Pääsääntöisesti esimerkit edustivat kuitenkin epävirallisia termejä.

Tutkimustulosten perusteella molempien pandemioiden tapauksessa esiintyi virukseen ja sairauteen viittaavien virallisten termien lisäksi useita epävirallisia termejä. Koronaviruspandemian tapauksessa viralliset termit kuitenkin yleistyivät epävirallisia termejä laajemmin kaikissa paitsi disinformaatiojulkaisuissa. Vuoden 2009 influenssapandemian tapauksessa virallisten termien rinnalla puolestaan esiintyi tasaisesti useita epävirallisia termejä kaikentyyppisissä julkaisuissa. Koronaviruspandemian virukseen ja sairauteen liittyvä termistö ja termien käyttö oli odotetusti yhtenäisempää kuin vuoden 2009 influenssapandemiassa.

Avainsanat: Erikoiskielet, terminologia, lääketieteen terminologia, vuoden 2009 influenssapandemia, koronaviruspandemia

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1 INTRODUCTION

Societal changes, developments and new phenomena trigger the need for novel words and terms that are often specific to a certain field of study, e.g. new terms in the field of technology describe concepts that newly emerge and therefore require particular designations. Similarly, new discoveries and phenomena in the field of medicine, including the outbreaks of global pandemics, are concepts that require specific and standardised terms that not only describe these concepts but enable discussion on them. The uniformity of terms is therefore an integral part of successful communication because it helps avoid the confusion that may arise due to the existence of several conflicting terms for the same concept. The topic of this study is the terminology used for the 2019 coronavirus pandemic and the 2009 H1N1 pandemic, namely the terms used in different media channels for the diseases and viruses.

These two pandemics were chosen for research for two reasons. Firstly, information on both pandemics is widely available in online sources. Secondly, to ensure the consistency of terminology, the names of new diseases and viruses are established according to certain universal conventions. In 2015, the World Health Organization (WHO) issued renewed conventions for the naming of new human infectious diseases, and therefore the term for the 2019 coronavirus disease was formed according to different conventions than the term for the 2009 influenza. Despite official terms being issued for the diseases and viruses during the pandemics, variation of terms and terminological divergencies from norms can be observed in the case of both pandemics. The aims of this study are the following: to determine what kind of terms were used for the two pandemic diseases and viruses, to describe the use of these terms in different media channels, to consider what factors into the popularity of one term over another in different sources, and to compare and contrast the terminological situations of the two pandemics.

This thesis contains four subsequent main sections. An introduction to special languages, terminology and medical language are provided in Section 2. The process of selecting and gathering the research material and the method employed in this study are described in Section 3, and the material is analysed in Section 4. Finally, a summary of findings and conclusions based on the analysis are presented in Section 5.

2 LITERATURE REVIEW

This section discusses the theoretical framework and primary concepts relevant to the present thesis. The topics of Section 2.1 are special languages and special language communication. Section 2.2 provides an introduction to terminology as an integral component of special languages and presents some standard criteria that determine how terms in special languages are established. Section 2.3 presents in closer detail medical terminology and the current conventions of term formation for viruses and new infectious diseases.

2.1 Special languages

A particular communicative situation requires the use of an appropriate form of discourse, and speakers of a language select a specific subcode of language according to their expressive demands and the type of communicative event (Cabré Castellví et al. 1999, 57). Each language can roughly be divided into two distinct subcodes, general language and special languages. General language is a system that consists of communicative norms with which all language speakers are familiar (*ibid*, 59)**.** General language is, in short, a broad subcode used mainly in everyday conversation, and its primary communicative channel is spoken discourse.

In contrast, special languages are typically used in communicative contexts where they have a restricted scope of functions, as stated by Basturkmen and Elder (2004, 672). Such selective contexts conventionally include academic or professional environments in which the applied subcode of language has relatively predictable functions and a rather constrained range of uses (*ibid*, 673). To elucidate, the technical language of legal documents, generally referred to as legalese, is a typical example of a special language. The languages of science, technology and medicine, to name but a few, fall under the scope of special languages, as well.

Despite their restricted usage, special languages present an equally varied scope of uses as general language, but characteristically aim to minimise or neutralise emotive and social functions and to maximise communicative and classificatory ones (Sager et al. 1980, 21). Whereas general language exhibits social and dialectal variation, special languages further branch off into distinct field-specific subsystems, and they are always acquired formally as second languages on the basis of general language (*ibid*, 64). Sager et al. (1980, 39) remark that "special languages develop in direct response to socio-economic change" but cannot be divided into subsystems based on the socio-economic dimension alone; the nature of the subject field, e.g. medical science, determines the language used in that field. The subject field can, for instance, stipulate different forms of speech acts and determine to what extent non-linguistic communication devices or artificial language is necessary (*ibid*).

The term *artificial language* refers to a form of language that is based on rules that have been evolved outside of the linguistic system (Sager et al. 1980, 42). The purpose of artificial languages is to describe, classify and prescribe phenomena but not to evaluate, express or incite emotions (*ibid*). For instance, biological taxonomies – the naming and classification of living organisms – are artificial languages based on conventions established outside the bounds of natural language. As systems of transmitting knowledge and exchanging information, special languages often employ various codes simultaneously (Cabré Castellví et al. 1999, 59). The most prominent code is natural language, but in specialised discourse it can be supported by other means of communication, such as graphs, maps or scientific formulae (*ibid*).

In addition to employing artificial languages, special languages are characterised by certain linguistic characteristics that distinguish them from general language (Cabré Castellví et al. 1999, 59). The particular features that are characteristic of special languages can be observed on distinct linguistic levels: grammar, pragmatics and semantics (Sager et al. 1980, 2). The grammatical level is concerned with the syntactic and morphological differences between general and special languages.

The pragmatic dimension involves the differences between language user groups, topics and situations. The semantic aspect pertains to the special vocabulary of a special subject field and the lexical differences that occur between general and special languages. The semantic dimension and the issue of special lexical items are the main focus of this thesis.

2.2 Special language terms and terminology

As stated in the previous section, the lexical level of special languages is concerned with the special vocabulary items that occur within the language of a special subject field, and the main characteristics of special languages are often observed at the semantic level as differences and divergences from general language (Sager et al. 1980, 38). Carli and Calaresu (2007, 530) similarly remark that although reducing a special language to a set of technical vocabulary would be a considerable simplification, the lexical aspect tends to be the most prominent characteristic of field-specific communication in comparison to general language. The lexicons of general language and special languages overlap and coincide, but the distinction between the lexicons is primarily located in the nature of reference (Sager et al. 1980, 74).

A special language lexicon contains items of general reference which are not subject-specific and occur over a variety of special codes (Sager et al. 1980, 75). Items with general reference properties are generally vague or ambiguous in reference, and these items are referred to as *words,* which together comprise a *vocabulary* (*ibid*). Items that are specific to a subject field and have special reference within that field are referred to as *terms*, and they collectively constitute the *terminology* of that subject field (*ibid*). Words denote *notions*, which are indefinite referents with fuzzy boundaries; terms denote *concepts*, which are the formal, non-controversial referents in special subject communication (*ibid*). Whether lexical items are considered as words or terms is not fixed across disciplines: words in one subject field may be terms in another subject field, and vice versa. (*ibid*).

The process of creating lexical items with a fixed reference in special languages falls under the heading of *designation*. Designation refers to the naming of notions and concepts, and its goal is to produce abstractions that are either notions designated by words or concepts designated by terms (Sager et al. 1980, 77). Special languages function as instruments for unambiguous communication, which requires that each term corresponds to a single concept and each concept is only designated by a single term (Cabré Castellví et al. 1999, 194). In support of this notion of explicit reference, Carli and Calaresu (2007, 531) mention that a systematic demand among specialists concerning the lexis of science is the aim for the most accurate and unambiguous expressions possible, as regards both consistency and clarity of terminology.

The purpose of organised standardisation of terminology is to stabilise and combat the diversity of names for constantly emerging concepts (Cabré Castellví et al. 1999, 194). Designation endeavours to represent as precisely, appropriately and economically as possible observations and concepts that are collectively understood within a subject field (Sager et al. 1980, 287). Pugh and Sager (2004, 1925) further define the goal of designation as an effort to achieve a terminological transparency and consistency within a subject field. A suitable term for a new concept is determined once the validity of the concept is acknowledged and established within a specialist community (*ibid*). The terminologies of special fields exhibit greater lexical regularity than general language vocabularies due to the deliberate and often systematic techniques of term creation (*ibid*, 1924).

Relating to the requirements of fixed reference and proper designation, Cabré Castellví et al. (1999, 194) note that the general agreement in special communication is the demand for "a higher level of precision than that required in general communication". Rogers (1997, 219) states that special language communication is, in general, characterised by the desire to reduce or eliminate ambiguity that may result from the use of synonyms. Synonymy is considered as unhelpful or misleading, and consistency of terminological choices to achieve explicit communication is a feature often expected of a single special-language text (*ibid*).

The issue of synonymy is further addressed by Sager et al. (1980, 84), who remark that replacing a specific reference item with a generic reference one in special language communication is, as other types of synonymic variation, considered inappropriate. In special communication, precision of terms is preferable to linguistic variation, and therefore synonyms and homonyms are best avoided (*ibid*, 290). Homonyms should be avoided when the possibility of ambiguity exists, as in cases where the meanings of two terms are very similar, when they may occur in the same context or when a term from one special subject is applied in another special subject where it has a different meaning (*ibid*). A common strategy to avoid synonymy and homonymy is the use of a carefully constructed artificial language because in such a domain, it is possible to achieve a monofunctional denotation where one concept only corresponds to a single term (*ibid*, 42). Rogers (1997, 219) notes, however, that despite the tendency to strive towards infrequent use of synonyms, synonymic variation frequently occurs in special-language texts but is considered arbitrary and, by implication, careless.

2.3 Medical terminology and the naming of viruses and diseases

The origins of English medical language have been meticulously studied by Fortuine (2000, 15), who states that the history and development of English medical language parallel those of the English language and the field of medicine in Western Europe, England and other English-speaking countries. As the English language itself, English medical language has been influenced by several languages, primarily Latin, Greek, Germanic languages and Old French (*ibid*, 19–20). Latin remained a prerequisite of medical practitioners across Europe until the mid-nineteenth century, after which Latin and Greek elements have been used mainly for the naming of new diseases through appropriate word-formation (*ibid*, 17).

In addition to stemming from Greek and Latin elements, medical terms can also have their origins in mythology, geographical locations or metaphors, and these have been studied by Taylor (2017). In accordance with the linguistic history of medical language, Roman and Greek culture have

had a considerable effect on the nature of English medical terms, as several terms include references to Roman or Greek gods or deities (9) as well as to kings, mortals and monsters (18). Medical terms that have a reference to a geographical location are known as *toponyms*, and diseases named after a place are called *toponymic diseases* (77). Toponymic terms can be based on virtually any geographical item, ranging from continents to rivers and cities to forests, such as the Zika virus disease, named after a forest in Uganda (78). Metaphors have been a frequent source of medical terminology even in ancient times, as stated by Fortuine (2000, 79). Metaphors are common in medical terms, but they are also prevalent in doctor-patient discourse and in medical discussion that occurs in nonmedical contexts (Taylor 2017, 98).

Additionally, medical terms can be formed according to standard conventions. Regarding the formation of terms for viruses and diseases, the names of viruses and human infectious diseases adhere to particular patterns of designation issued by two medical organisations: the World Health Organization (WHO) and the International Committee on Taxonomy of Viruses (ICTV). Viruses and the diseases they cause are named according to different conventions and therefore often have entirely unconnected names (WHO: “Naming the coronavirus”). WHO notes that it is common for laypeople to be familiar with the name of a disease but not with the name of the virus that causes it (*ibid*).

Viruses are classified and designations for them issued by the ICTV, a committee formed in 1966 with the intention to develop a single universal taxonomy scheme for all viruses that infect animals, plants, fungi, bacteria and archaea (ICTV: “Introduction”). The organisation aims to establish an international classification of viruses and virus names, to communicate decisions regarding virus classification to virologists, and to maintain a register of virus designations (*ibid*).

The naming of viruses is based on the International Code of Virus Classification and Nomenclature, the most recent version of which was published in March 2021. The code states that the essential principles for virus nomenclature are the aim for stability and the aim to avoid the unnecessary formation of names as well as the use of erroneous or confusing names (ICTV: “ICTV

Code", 2.1). The code reiterates the intention of the ICTV, which is to establish a virus classification and nomenclature system that is international and universally applicable (3.1). Some essential guidelines for virus nomenclature presented in the ICTV code can be summarised as follows:

1. Existing names must be retained whenever possible (3.9), and new names may not duplicate names that have already been approved (3.14).
2. New names for classifications should be easy to remember and to use, which sets a preference for short names with a minimal number of syllables (3.12).
3. A siglum can function as an acceptable name, provided that it is meaningful to virologists. (3.15) Sigla mean names comprised of letters or letter combinations from words in a compound name. A common example of a siglum is the abbreviation U.S. for the United States.
4. In accordance with the notion of special reference in a special subject field, the name of a virus species must present an unambiguous identification of the species (3.21).

Virus classification and designation is performed to provide information to virologists in the field. Diseases, on the other hand, are classified and named to provide information not only to professionals in the medical field but to the general public as well (WHO: "Naming the coronavirus"). The naming of diseases follows vastly different conventions than the naming of viruses. Whereas a virus is named based on its genetic structure to enable communication among virologists, a disease is named "to enable discussion on disease prevention, spread, transmissibility, severity and treatment" (*ibid*).

As discussed earlier, references to geographical locations and mythology have been common elements even in official disease nomenclature. In addition to these, references to people or animals, among other things, have inspired disease and virus names in the past. In May 2015, however, the traditions for the naming of human infectious diseases underwent a significant reform when the WHO issued new guidelines for the naming of diseases. Titled "World Health Organization Best Practices

for the Naming of New Human Infectious Diseases", the document contains information on and criteria for the naming of newly emerging diseases. The aims of the new conventions are "to minimise unnecessary negative impact of disease names on trade, travel, tourism or animal welfare" as well as to "avoid causing offence to any cultural, social, national, regional, professional or ethnic groups" (WHO: "Best Practices"). The terms to avoid when naming new human diseases are presented in Table 1.

Table 1. Terms not to be used in disease naming. Source: WHO: "Best practices".

Disease names should not include	**Examples of words and phrases to avoid**
Geographic locations	*Middle East Respiratory Syndrome, Saint Louis encephalitis, Katayama fever*
Names of people	*Pott disease, Plummer-Vinson syndrome*
Species of animal or food	*Swine flu, paralytic shellfish poisoning*
Cultural, population, industry or occupational references	*Occupational, legionnaires disease, Coalworker's pneumoconiosis*
Terms that may cause undue fear	*Black death, epidemic pleurodynia*

In contrast to the undesirable items in Table 1, WHO have presented a set of useful terms that form the basis of contemporary disease nomenclature. The set includes generic descriptive terms that refer to the clinical symptoms, physiological processes and anatomical or pathological systems that are affected by the disease (WHO: "Best Practices"). Specific descriptive terms that indicate the severity, seasonality or general environment of the disease are accepted, as well as references to the age group and population of patients and the course, epidemiology and origin of the disease (*ibid*). Disease names may include the year of detection, information on the causal pathogen and associated descriptors, and any arbitrary identifiers, such as numeric coding (*ibid*).

Although the objective of the new best practices is to create a more neutral and inoffensive system of disease nomenclature, criticism levelled at the new designation system has emerged. Taylor (2017, 78) argues that forbidding the naming of future diseases after geographical locations will prove to be a loss in the richness of medical language. He further mentions that discarding the historical eponyms present in present medical terminology would likewise mean discarding a substantial

amount of the history of medicine and would ultimately leave the field with many instances of barely intelligible nomenclature (123).

3 MATERIAL AND METHODS

In this section, the material of this study and the means through which the material was gathered are introduced. Section 3.1 provides information on how and from where the material was collected and presents the criteria according to which the material was deemed suitable for research. In Section 3.2, the methodology that was used to analyse the material as well as its limitations are described.

3.1 Material and data collection

The select material in this study consists of non-fiction texts collected from a wide range of sources. The texts include various informative texts, online news articles, reports and announcements. Texts from several different sources were examined to achieve a broad understanding of the terminology that emerged as a result of the two pandemics and to describe how the terminology used varies across different media channels.

The sources include medical agencies, medical institutions and medical websites as well as news media and disinformation websites. The first three are collectively referred to as *medical organisations*. In this thesis, medical agencies refer to international organisations such as the *World Health Organization* (WHO), or to national health organisations, such as the *National Health Service* (NHS) in the United Kingdom or the *Centers for Disease Control and Prevention* (CDC) in the United States. Medical institutions comprise hospitals and healthcare clinics, including *Johns Hopkins Hospital* and *Mayo Clinic*. The two previous categories partially overlap with the medical websites considered in this research because some medical websites, e.g. *Medline Plus*, closely collaborate with national medical organisations. Other medical websites from which material was collected include sites such as *WebMD* and *Healthline Media*. News media entails both newspapers and news websites. The array of newspapers ranges from broadsheets, such as *The New York Times* and *The Guardian*, to tabloids, such as *The Sun* and *Metro*. News websites refer to internet channels that

contain digital news coverage. Disinformation websites are ones that generally contain anti-vaccination conspiracy theories or pseudoscientific information. These include *Natural News*, *OneWorld* and *Stillness in the Storm*.

Overall, texts were gathered from 30 sources for the 2019 coronavirus pandemic and 25 sources for the 2009 H1N1 pandemic. The number of texts on the former is 70 and on the latter 63, with the total number of texts amounting to 133. The distribution of the sources and texts in both pandemics is presented in Table 2. Approximately two thirds of the texts are from the United Kingdom, a third from the United States, a couple from Australia, and one from Ireland.

Table 2. Distribution of texts and sources according to media channel.

	2019 coronavirus pandemic		**2009 H1N1 pandemic**	
Media channel	**Sources**	**Texts**	**Sources**	**Texts**
Medical agency	5	10	7	24
Medical institution	6	8	4	9
Medical website	3	6	3	8
News media	10	25	9	16
Disinformation website	6	21	2	6
Total	**30**	**70**	**25**	**63**

The purpose of the majority of these texts is to provide information either to a specific readership, as in the case of newspapers and news sites, or to the general public, as in pandemic-related announcements or on medical websites. The texts gathered from medical organisations are ones that generally involve instructions or information on symptoms of or vaccinations against the pandemic diseases.

The texts concerning the 2019 coronavirus pandemic were collected using Google Search and internal search engines on different websites. The select texts were published between January 2020 and January 2022. The texts concerning the 2009 H1N1 pandemic were collected primarily from contemporary sources by using the Wayback Machine, a nonprofit digital archive of the internet. The archive enables access to material – both existing, moved or removed – as it was at the time of its publication, provided that the URL of the webpage is preserved in the archive. The archive was used

to access websites and articles as they were in 2009–2010 to achieve as accurate as possible an overview of the disease and virus terminology during the 2009 H1N1 pandemic. A majority of the texts analysed were published between April 2009 and September 2010, with approximately a dozen being more recent. Regarding the use of the select texts as material for this research from an ethical perspective, the texts are used for nonprofit research purposes and therefore fall under the concept of fair use.

3.2 Methods employed

The material collected is analysed by means of a qualitative method, and the nature of the analysis is a comparative one. After collection, the material was organised into separate groups according to the media channel and source from which the texts were gathered, e.g. all texts from medical organisations were first organised into one group and then divided into subgroups according to their specific sources. After the grouping process, the terms pertaining to the diseases and viruses were identified and listed. Finally, the terms for the diseases and viruses of both the 2019 coronavirus pandemic and the 2009 H1N1 pandemic were organised into tables (Appendices 1 and 2). Significant deviations from the official disease and virus terms were then distinguished from the material for further analysis. The instances of term usage considered most noteworthy are given as examples in the analysis section of this thesis.

The norms against which the terminology is compared are those issued by WHO and ICTV as well as norms for medical terminology as a subcode of special languages. The aspects of the disease and virus names that will be subject to analysis include the elements from which the terms have been formed, the contexts where they occur, and how the terms and their usage varies both in different internet media pertaining to one pandemic and in different media between the two pandemics. Although a definitive description of the terms for the diseases and viruses in the two pandemics is

difficult to achieve through a qualitative research method, a considerable number of different types of texts from various sources were selected to minimise the limitations of the method.

4 DATA ANALYSIS

In this section, particular features of usage of terms in the material are discussed. Section 4.1 first presents a general overview of the official guidelines on the terminology of the 2019 coronavirus pandemic as well as instances of unconventional terms and their use. Section 4.2 presents an overview of the guidelines and usage of Influenza A (H1N1) terminology, after which notable use or variation of terms in different sources is analysed.

4.1 COVID-19 terminology

The terms for the disease and the virus that causes it were announced by WHO and ICTV, respectively, in February 2020 (WHO: "Naming the coronavirus"). The official name of the disease is *coronavirus disease* (*COVID-19)*, and the name of the virus is *severe acute respiratory syndrome coronavirus 2* (*SARS-CoV-2)*. Both abbreviations are sigla formed from the official compound terms. The siglum *COVID-19* comprises *CO* from *corona*, *VI* from *virus* and *D* from *disease,* with the numeric identifier *19* representing the year the disease was first detected. The siglum *SARS-CoV-2* is composed of *SARS* from *severe acute respiratory syndrome*, *Co* from *corona* and *V* from *virus*, with the numeric identifier *2* representing the strain of the virus. SARS-CoV-2 is genetically related to SARS-CoV, the virus responsible for the SARS outbreak in 2003. As regards the use of the term *SARS-CoV-2*, WHO has recognised that the abbreviation *SARS* may cause unnecessary fear for populations that were worst affected by the 2003 SARS outbreak. To avoid such unintended consequences, WHO has referred to the virus as *the COVID-19 virus* or *the virus responsible for COVID-19* when communicating with the public.

While the ICTV is responsible for virus taxonomy and nomenclature, the naming of virus strains, or variants, does not fall under their domain. The variants are formally labelled according to the Pango nomenclature, a system used by researchers and public health agencies to track the

transmission and spread of SARS-CoV-2 and its variants (Pango: “The Pango dynamic nomenclature”). The Pango nomenclature produces hierarchical alpha-numeric designations for the coronavirus variants, such as *B.1.17* (Pango: “Rules”). In May 2021, the SARS-CoV-2 variants were issued arbitrary identifiers according to the Greek Alphabet by WHO with the intent to create simple labels that are easy to say and remember (WHO: “Announces”), resulting in, for instance, the B.1.1.529 variant receiving the label *Omicron*. These labels were issued to encourage people to avoid referring to the variants according to the place where they were first detected due to the stigmatising and discriminatory nature of such names.

The official terms and their abbreviations provided above form the background against which the variation of terms and term usage is compared in the following sections. The sections below present rough generalisations of term usage in different media channels as well as noteworthy instances of divergence from the official terms and, by implication, appropriate disease and virus nomenclature.

4.1.1 Medical organisations

A close review of the material from medical agencies, institutions and medical websites reveals that the terminology that occurs in these sources is mostly in accordance with the official nomenclature issued by WHO and the ICTV. The use of terms referring to both the 2019 coronavirus and the disease it causes is, for the most part, consistent, meaning that there is little variation in term usage between websites and webpages on the individual websites. Some variation occurs in terms used for the disease and virus, but the virus variants are consistently referred to by the labels suggested by WHO.

In the select texts on medical agency and institution websites, the most common term used for the disease is the siglum *COVID-19* alone, but instances where the compound name *coronavirus (disease)* and the siglum occur together are prevalent when the term occurs at the beginning of a text.

This type of usage seems to be common in texts that offer information on the disease, its transmission or symptoms, the following being three relevant instances:

(1) COVID-19 (coronavirus disease 2019) is a disease caused by a virus named SARS-CoV-2 … (Text 1)
(2) … questions about coronavirus (COVID-19). (Text 2)
(3) How to avoid catching and spreading coronavirus (COVID-19). (Text 3)

Passage (1), from the Centers for Disease Control and Prevention (CDC) website contains both the siglum and the compound name of the disease. The terms occur at the beginning of an introductory text to the disease, but subsequently only the siglum is used as a term for the disease. However, passages (2) and (3), from the Australian Department of Health and the National Health Service websites, respectively, represent instances in which the siglum for the disease is paralleled with the term *coronavirus*, a general reference to a member of the coronavirus family instead of the disease itself. Again, only the siglum is used thereafter.

Regarding cases where reference is made to the virus itself, the terms used alternate between *SARS-CoV-2* and *(novel) coronavirus*. Deviation from such usage is present on the Mayo Clinic website, where the following uncommon yet appropriate forms are used:

(4) … the COVID-19 virus … (Text 4)
(5) … the virus that causes COVID-19. (Text 5)

The only notable divergence from the norm occurs on the website of the National Center for Biotechnology Information (NCBI):

(6) Wuhan seafood market pneumonia virus. (Text 6)

The above term is used in a document on the genomic sequence of the 2019 coronavirus composed by the NCBI. Published in January 2020, the document contains an interim name for the virus before the ICTV issued the official designation for it. However, a version of the document with the term *Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)* instead of the phrase in (4) was released only days after the publication of the original.

In keeping with the mostly appropriate and predominantly uniform use of terms by medical agencies and institutions, medical websites demonstrate a similar trend. The disease is most often referred to with the siglum, although instances of usage equivalent to that in examples (1), (2) and (3) above are common. No notable divergencies from the official names can be found in texts from medical websites.

4.1.2 News media

The terms for the disease that occur in the texts gathered from news media are mostly in accordance with the official designations. In nearly all the newspaper articles examined, the term *COVID-19*, or simply *COVID*, is used to denote the disease with virtually zero instances of the abbreviation occurring together with the term *coronavirus*, which was frequent in the texts analysed in the previous section. The preference for a shorter expression seems to be typical of newspaper articles, motivated by a variety of reasons. The use of a concise term shortens headlines and captions, or it can make the body text of an article more coherent and legible. Moreover, it is presumable that while the pandemic is current, it is unnecessary to explicate the term further in popular media because a majority of readers will be familiar with the topic and the associated terminology.

The terms used to refer to the virus are less consistent than the terms used for the disease in this category. By far the most frequent term for the virus in news media is *coronavirus*, with only one individual occurrence in an article from *The Guardian* of the formal abbreviated term:

(7) … Omicron variant of the Sars-CoV-2 virus … (Text 7)

Another common expression is simply *the virus*. The use of the terms *coronavirus* and *the virus* is most likely explained by a reason similar to the one suggested above for the term for the disease being simply *COVID*: the readers of a news article are unlikely to confuse the current coronavirus with a different one while the pandemic is ongoing, meaning that the reference is unequivocal in the current context.

A couple of instances of distinctly inappropriate term usage occur in *The New York Times* in early 2020 (8), and in a *BBC News* article heading later that year (9):

(8) The Wuhan coronavirus spreading from China … (Text 8)
(9) Wuhan coronavirus … (Text 9)

In (8), the term *Wuhan coronavirus* includes an explicit reference to the geographical provenance of the 2019 coronavirus. Considering that the term occurs in an article published before the official name of the virus was announced by the ICTV, the use of such a term is only to be expected: at the beginning of the pandemic, clarifying the term with a geographical reference was, to a certain extent, unavoidable. In (9), however, the use of the term is more marked since the article was published six months after the virus was issued an official name. Furthermore, the pandemic was no longer geographically restricted, which renders the use of such a term essentially unnecessary.

While the terms used for the virus generally exhibit considerable uniformity in news media, the trend only applies to the original strain of the 2019 coronavirus, SARS-CoV-2, not to its further variants. The terms used for the latter present the greatest variation in news media, which is especially noticeable when compared to the fairly uniform use of the terms for the disease and the original virus strain. The predominant terms are those involving a reference to the geographical location where the variants were first detected.

(10) The Kent variant has already been detected in more than 50 countries. (Text 10)
(11) The U.K. variant of the coronavirus is now the most dominant strain … (Text 11)
(12) New research finds that the British variant … (Text 12)
(13) Colombian variant may partially evade Covid vaccines … (Text 13)
(14) The Indian variant of Covid-19 … (Text 14)
(15) This suggests the vaccine is less effective against the South African variant … (Text 15)
(16) … the Brazilian variant bears much the blame. (Text 16)

In each of the above examples, all from different news sources, a variant of the SARS-CoV-2 virus is linked by name to where it was first detected. Examples (10), (11) and (12) each exhibit a different term that has been used for the Alpha variant of the virus first identified in the United Kingdom: *the Kent variant*, *the U.K. variant* and *the British variant*. Passages (13)–(16) demonstrate

similar terms used for a variety of variants – *Mu* in (13), *Delta* in (14), *Beta* in (15) and *Gamma* in (16) – and each term conveys the location where the variant was initially discovered. Such terms are common in texts that were published before the Greek alphabet inspired labels were announced by WHO. This is probably due to the fact that the variants were discovered from late 2020 onwards, but the labels for them were only issued in May 2021. The variants still required a means of identification prior to the announcement, and terms with a geographical reference are easy, distinctive labels, and possibly popular for this very reason. After the formal labels were announced, their use increased considerably, and they are the terms that occur whenever the variants are discussed in texts published after the official names were announced.

Additionally, a couple of terms that are not exactly inappropriate occur for the subvariant of the Omicron variant in articles from early 2022 (quotation marks in the original):

(17) … the new Omicron subvariant, described as "son of Omicron" … (Text 17)
(18) Nicknamed 'Omicron's little brother', it is believed to have emerged from … (Text 18)
(19) Omicron's 'close cousin' has mutations that could alter how it behaves … (Text 7)

In the passages above, the relation between the Omicron variant and its subvariant is expressed with different kinship terms. These kinds of terms appear to be rare, with reference to the subvariant being made more commonly with its Pango lineage designation, *BA.2*. Other than the Pango designation, the subvariant has not been issued an official label that would be easy to use in discussion, and thus the terms above seem helpful and, due to their inoffensive nature, appropriate. The informality of these terms is indicated by the quotation marks around them, which reinforce the perception that these are indeed unofficial, colloquial terms.

4.1.3 Disinformation websites

The material collected on COVID-19 terminology from disinformation websites exhibits by far the greatest variation and the largest number of inappropriate terms. Informal, or biased, terms are used in nearly all of the texts in this category. The unofficial terms found in the material can be divided

into three types according to their components: terms that contain geographical or ethnic references, eponymous terms, and unconventional terms for the virus variants.

The most common types of terms for both COVID-19 disease and 2019 coronavirus are those that contain a reference to a geographical location or to an ethnic group, as in the examples below. In all the extracts in this section, the emphases and quotation marks are in the original.

(20) Thou shall not make money during the China Flu crisis … (Text 19)
(21) … the "Delta" variant of the China-disease 'scamdemic' … (Text 20)
(22) … variant of the Wuhan Disease. (Text 21)
(23) While designing the China virus … (Text 20)
(24) … after testing *positive* for the Chinese Virus. (Text 22)
(25) … after testing positive for the Wuhan Virus. (Text 22)
(26) … more dangerous than the Wuhan coronavirus (COVID-19) itself. (Text 23)

The geographical references are invariably those involving the city of Wuhan in China or China itself. Regarding the disease, the term in (20), *China Flu*, is the most common such term. The term *China-disease*, in (21), only occurs once in the material. The expression in (22), *the Wuhan disease*, is similarly rare but occurs more than once. The terms for the virus that contain a geographical reference comprise similar elements to the terms for the disease. Terms such as *the China virus* (23), or *the Chinese virus* (24) occur in nearly all texts in this category. The term in (25), *the Wuhan Virus*, is not as common as the former two but still occurs in more than half of the texts. The most frequent term, however, is the one in (26), *the Wuhan coronavirus (COVID-19)*, which can be found at or near the beginning of the body text in a majority of articles from disinformation websites.

In addition to the terms with geographical or ethnic references, eponymous terms are a recurring type. In such terms, reference is always made to one specific person, namely the director of the National Institute of Allergy and Infectious Diseases (NIAID), Dr. Anthony Fauci:

(27) The most at risk demographics when it comes to Fauci Flu susceptibility … (Text 24)
(28) … fully protected against the Fauci Disease. (Text 25)
(29) … Fauci Flu shots appear to cause female infertility … (Text 26)
(30) … there are now 34 new cases of Fauci Germs on campus. (Text 25)
(31) Adverse events caused by the Fauci Virus (COVID-19) "vaccines" … (Text 27)
(32) … "fully vaccinated" for the Tony Fauci Virus (Covid-19) … (Text 25)

Terms such as those in the above passages can be found regularly throughout the material on disinformation websites. The reason for the existence and use of these eponymous terms is the strong opposition to COVID-19 vaccinations. The disinformation media appear to hold Dr. Fauci responsible for the invention and allegedly false positive reputation of the vaccines, and therefore terms that contain explicit references to his name often occur in contexts where the dangers or adverse effects of the vaccines are discussed.

Finally, the third notable type of term comprises references to the 2019 coronavirus variants. However, the use of unofficial terms for the variants seems to apply only to the Omicron variant whereas the other variants discussed are, at most, placed within quotation marks, with no informal terms for them occurring. The following are examples of the unconventional terms Omicron has attracted:

(33) The new “Omicron” (*Moronic*) variant is fast-spreading … (Text 28)
(34) Omicron is a result of these vaccines: it’s the vaxx variant. (Text 29)

The anagram of *Omicron* in (33), *Moronic*, occurs in nearly every text in this category where said variant is discussed. The variant is called by its official identifier only in cases where it is not the main topic of discussion but mentioned in passing or in relation to another subject. Passage (34) contains an expression that occurs only once in the material: *the vaxx variant*. This is a term inspired by the supposed connection between the vaccine and the emergence of the Omicron variant.

4.2 Influenza A (H1N1) terminology

The terminological situation during the 2009 H1N1 pandemic was considerably different than that during the 2019 coronavirus pandemic. At the early stages of the pandemic in April 2009, the disease came to be known under the title *swine influenza* (*swine flu*), which was used either at the beginning of or for the entire duration of the pandemic in virtually all the sources considered in this study. Unlike at the beginning of the 2019 coronavirus pandemic, the name was not officially updated in accordance

with any conventions, and even WHO referred to the disease as *swine influenza* for the first few weeks of the pandemic. According to Kamradt-Scott (2017, 195), the term *swine flu* was chosen and used as the appropriate term to avoid an unfair reference to the location where the disease was first detected, Mexico. Despite the noble intentions of WHO, the term had rapid negative consequences on swine agriculture as well as pork and pork product trade, which resulted in WHO renaming the disease *pandemic influenza A(H1N1)* (*ibid*, 195–196).

Concerning influenza viruses, there are certain conventions according to which they are classified and named. The conventions are different than the ones that determine the naming of other viruses, such as the 2019 coronavirus. The current international nomenclature system for influenza viruses was published by WHO in 1980, and the 2009 H1N1 virus was officially named the *A(H1N1)pdm09 virus* following the conventions established in the system. The official names for influenza viruses comprise different elements: virus type, host of origin if other than human, geographical origin, strain number, year of isolation, and the description of virus subtype in parentheses for type A viruses (WHO: "A revision"). Other identifiers can be used to distinguish a particular type of virus, as in the case of *A(H1N1)pdm09*, where the abbreviation *pdm* from *pandemic* was used instead of other identifying elements. Table 3 provides examples of patterns in influenza virus names in cases of both non-human and human host of origin. For comparison, the name of the 2009 H1N1 virus is also presented.

Table 3. Elements used in influenza virus names. Source: CDC: "Types".

Element	**Example**		
	A/duck/Alberta/35/76(H1N1)	*A/Perth/16/2019(H3N2)*	*A(H1N1)pdm09*
Virus type	A	A	A
Host of origin	Duck		
Geographical origin	Alberta	Perth	
Strain number	35	16	
Year of isolation	1976	2019	2009
Virus subtype	H1N1	H3N2	H1N1
Other identifier			*pdm* (pandemic)

Unlike the 1976 and 2019 viruses in Table 3, the *A(H1N1)pdm09* was assigned a distinct name to distinguish it from the seasonal influenza A(H1N1) viruses that had been identified prior to the pandemic (CDC: "Types"). Despite the unique nature of the virus, its nomenclature was only standardised as *A(H1N1)pdm09* after the pandemic in late 2011 to reduce existing confusion among both the scientific community and the general public (WHO: "Standardization").

Because no definitive official terms for either the virus or the disease were established at the beginning of the pandemic, the analysis in the following sections will pertain more to the amount of variation between terms within sources than to distinctive terms, as was the case in Section 4.1.

4.2.1 Medical organisations

In contemporary texts on medical agency websites, the term *swine flu* is the most common name used for the disease. As stated in the previous section, the term, or some version of it, also occurs in announcements concerning the disease on the WHO website at the early stages of the pandemic. However, the term for the disease is frequently updated during the first couple of months after its emergence. In texts from the WHO website, it is also frequently compounded with a term for the virus, most often *A(H1N1)*:

(35) … confirmed human cases of swine influenza A/H1N1 … (Text 30)
(36) … reported 331 cases of influenza A(H1N1) infection. (Text 31)
(37) Laboratory-confirmed cases of pandemic (H1N1) 2009 … (Text 32)

Passage (35) was published on April 26, 2009, at the very beginning of the 2009 H1N1 pandemic, and features the initially-accepted term *swine influenza* followed by the virus type and strain. As early as May 1, the term was updated to that in (36), *influenza A(H1N1)*, an update that was made in all previous WHO announcements on the disease as well. After the disease was declared a pandemic by WHO in July 2009, the term in (37), *pandemic (H1N1) 2009*, became the new norm in WHO texts. In post-pandemic texts by WHO, the terms in (36) and (37) occur quite frequently. No instances of the term *swine influenza* occur in WHO texts after the disease was declared a pandemic.

In texts from other medical agencies, the terms for the disease present similar development to the ones in WHO texts, although the term *pandemic (H1N1) 2009* occurs rarely despite its official status at the time. The term used in late April and early May in 2009 is often either *swine flu* or *swine influenza*, but after the first few weeks of the pandemic it is changed to *2009 H1N1*, *H1N1 flu* or *H1N1 influenza* in nearly all the texts from medical organisations. The term *swine flu* often occurs next to these names either in parentheses or in quotation marks, usually only at the beginning or in the heading of a text. The only notable exception to this are texts from the NHS website, where the following terms for the disease and the virus still occur in late 2009:

(38) Important information about swine flu. (Text 33)
(39) The swine flu virus is spread in exactly the same way as … (Text 34)

Similarly to texts from medical agency websites, the terms *swine flu* and *H1N1 flu* for the disease and *swine flu virus* and *H1N1* for the virus occur in all the texts from medical institutions and on medical websites. Along with these terms, virtually any combination of them, regardless whether the term alone denotes the disease or the virus, can be observed in references to the disease, such as *H1N1 swine flu.* All the terms and term combinations are listed in Appendix 2. There is plenty of variation in terms within texts from one medical institution or on one medical website, but in this terminological disarray, no individual terms can be singled out as uncommon or unusual. The differences between the medical text sources mainly pertain to whether the term *swine flu* occurs alone or together or interchangeably with a version of *H1N1 flu* after the pandemic was declared.

4.2.2 News media

Whereas the terms for both the disease and the virus featuring the virus strain *H1N1* were common in texts from medical organisations, they form a clear minority in texts from news media. Terms such as *the pandemic flu, pandemic H1N1 influenza* and *the H1N1 2009 influenza* are infrequent compared to terms such as *swine flu, swine influenza* and *the swine flu pandemic*. As mentioned in the previous

section, a term for the 2009 H1N1 influenza and a term for the virus often occur together or as a compound, and this is especially common in news articles. In such cases, it is difficult or impossible to tell which concept the combination or compound term refers to. Occasionally, there is clear confusion of terms:

(40) … version of the H1N1 swine flu sub-strain – a disease which infects pigs … (Text 35)
(41) … to fight the spread of the virus, also known as swine flu. (Text 36)
(42) A vaccine for the H1N1 strain of swine flu … (Text 37)
(43) … H1N1 is not a life-threatening illness. (Text 37)

In all the extracts above, the disease, *swine flu*, and the *H1N1* virus are used for the same referent, either the disease or the virus. Instances of this type of interchangeable term usage occur across different types of sources on the 2009 H1N1 pandemic, but it appears to be a recurring phenomenon in news articles.

The present category also presents a couple of clear divergences from the texts on medical organisation websites. These include terms that contain a geographical reference and names that contain elements that may incite undue fear:

(44) Mexican flu outbreak may be mild … (Text 38)
(45) Experts probe deadly Mexico flu. (Text 39)
(46) Killer pig flu threat to UK … (Text 40)

Mexico was the place where the 2009 H1N1 was first reported, and terms containing a reference to this occur in (44), from *Reuters*, and (45), from *BBC News*. The terms *Mexican flu* and *Mexico flu* occur only in the headlines of the news articles, respectively: in the body text, the terms *swine flu* and *H1N1 swine flu* are used instead. Example (45) also includes a word that would be considered as unnecessarily extreme by the 2015 WHO conventions: *deadly*. The same applies to the word *killer* in (46). In (46), from *The Daily Mail*, the term *pig flu* itself is a rare divergence from the frequently occurring term *swine flu*, and it only occurs in this particular text. The same text is unique in containing the term *pig flu virus*. The terms *pig flu* and *pig flu virus* occur only in the headline and

at the beginning of the text, with the terms *swine flu* and *swine flu virus* used subsequently in the body text.

4.2.3 Disinformation websites

The terms for the 2009 H1N1 influenza and virus that occur on disinformation websites are similar to those that have been observed in the previous sections. The most common term for the disease is *swine flu*, which occurs in nearly every disinformation article. The virus is most commonly called *H1N1* or *H1N1 virus*, with only one instance of *swine flu virus*. Similarly to the trends seen in the previous sections, terms that combine different elements are common, including the terms *2009 swine flu, the H1N1 swine flu* and simply *H1N1 flu*.

The only unconventional term that occurs in a disinformation article is that in (47) containing a geographical reference:

(47) Just recently, during the 2009 Mexican Flu outbreak … (Text 41)

The term in (47), *2009 Mexican Flu*, occurs in one disinformation article from *Natural News* from 2009. In the article, the term *2009 Mexican flu* is used interchangeably with *swine flu* and *2009 swine flu*. Unlike during the 2019 coronavirus pandemic, the geographical origin of the virus did not attract that much attention, and the term to reflect that did not become popular.

Attitudes in disinformation media towards the 2009 H1N1 influenza, the vaccine and the entire pandemic are drastically different from those towards the 2019 coronavirus pandemic: the stance on the 2009 pandemic is considerably more neutral, although not entirely unbiased. This neutral attitude towards the pandemic affects what types of terms emerge and how they are used in disinformation texts, and the neutrality has resulted in term use that, at the time of the 2009 pandemic, was considered conventional and ordinary.

5 CONCLUSIONS

The objective of this study was to identify what kind of terms were coined for the diseases and viruses during the 2019 coronavirus pandemic and the 2009 H1N1 pandemic. Through a qualitative analysis of various texts from several sources, this study sought to determine how different terms were formed, which terms were the most frequently used, and how the terminological situations of the two pandemics differ from one another.

The official terms for the disease and virus concerning both pandemics were established by WHO and the ICTV, respectively. Regarding the 2019 coronavirus, both the disease and the virus were assigned official terms at the very beginning of the pandemic. The official terms were common in texts from medical agencies, institutions and websites. Although the official terms were by far the most common ones in news media as well, terms containing geographical references occasionally occurred. Such terms were especially frequent regarding the virus variants, which were assigned official identifiers by WHO relatively late into the pandemic. In disinformation media, the official terms were the least common ones whereas terms involving geographical references along with eponymous terms were common.

Regarding the 2009 H1N1 pandemic, the official terms for both the virus and the disease were established and standardised only after the pandemic. During the pandemic, the official terms used for the disease were, per the suggestions of WHO, *swine flu*, *influenza A (H1N1)* and *pandemic (H1N1) 2009*. The term *influenza A (H1N1)* was common in texts from medical agencies, institutions and websites, although instances of the former were observed in all sources. Despite the term *swine flu* being in official use only for the first few weeks of the pandemic, it achieved a broad range of use and was the most widespread term used in both news media and disinformation media. Term combinations containing elements from both *swine flu* and *influenza A (H1N1)* recurred often in all types of sources.

In addition to the emergence of similar terms, the terminological situations during the pandemics were alike in other respects as well. In both, the interchangeable use of a term for the virus and a term for the disease was common in several different media channels. A term for the disease and a term for the virus often occurred together, but in the case of the 2009 H1N1 pandemic, the terms in such contexts were more difficult to distinguish, meaning that it was often challenging to determine if reference was made to the disease or the virus.

The differences between the terms for the diseases and viruses in the two pandemics pertain to the overall uniformity of terms and to the types of terms used. During the 2019 coronavirus pandemic, diverse terms were numerous at the early stages of the pandemic, but as soon as the official terms were announced, the terminology began to stabilise and instances of unconventional terms became rarer. Apart from disinformation media, the official terms effectively displaced a majority of other terms in all media channels. Term usage within texts was uniform with only odd instances of the same concept being referred to with two distinct terms in a single text. Synonymy within texts was therefore infrequent.

During the 2009 H1N1 pandemic, a substantial number of different terms were being used from the very beginning of the pandemic in all media channels, but instead of the terminological stabilisation that occurred in the 2019 coronavirus pandemic, the terminological situation remained tumultuous and disordered throughout the 2009 H1N1 pandemic. Term usage was heterogeneous and irregular both between different sources and within the same source, often even within single texts: the same text often contained two or more different terms for the disease. Despite the terms being officially standardised later, the variation in terminology for the 2009 H1N1 pandemic between and within media channels is still frequent to this day.

Other dissimilarities include the fact that even though a clear formal term was not established for the 2009 influenza and the use of terms with a geographical reference was not strictly disapproved of during the pandemic, terms containing a geographical reference are far sparser for the 2009

influenza than for the 2019 coronavirus disease. The use of terms in disinformation media is vastly different between the two pandemics as well: the number of inappropriate terms was considerably larger in the 2019 pandemic than the 2009 pandemic, which is partly explained by the attitudes adopted towards each pandemic in disinformation media. Overall, it appears that the 2015 conventions for disease naming established by WHO have had an effect on disease terms and their usage in different media channels, and in the case of the 2019 coronavirus pandemic, the goal of creating a uniform, inoffensive and universally accepted terminology for the disease was successfully achieved.

PRIMARY SOURCES

Primary sources A: 2019 coronavirus pandemic

BBC News. 2020. “Wuhan coronavirus: From silent streets to packed pools.” https://www.bbc.com/news/world-asia-china-53816511. Accessed 19.3.2022. Text 9.

BBC News. 2021. “Covid-19: Kent virus variant 'on course to sweep world'.” https://www.bbc.com/news/uk-56019995. Accessed 20.3.2022. Text 10.

Centers for Disease Control and Prevention. 2021. “Basics of COVID-19.” https://www.cdc.gov/coronavirus/2019-ncov/your-health/about-covid-19/basics-covid-19.html. Accessed 15.3.2022. Text 1.

Chow, Denise. 2021. “U.K. coronavirus variant is now the dominant strain in the U.S., CDC says.” *NBC News,* https://www.nbcnews.com/science/science-news/uk-coronavirus-variant-now-dominant-strain-us-rcna606. Accessed 20.3.2022. Text 11.

Clarke, Mitch and Olivia Jenkins. 2022. “Covid update: Jeroen Weimar says there are some cases of ‘son of Omicron’ in Victoria.” *Herald Sun*, https://www.heraldsun.com.au/coronavirus/about-62-per-cent-of-victorian-primary-school-kids-havent-had-covid19-vaccine/news-story/9abf8ae65b6ca04737c440af1ae4c99b. Accessed 20.3.2022. Text 18.

Craig, Emily. 2021. “Colombian variant may partially evade Covid vaccines just like Beta, health chiefs warn... but they insist there's NO proof it will outcompete highly-infectious Delta.” *The Daily Mail,* https://www.dailymail.co.uk/news/article-9869469/Colombian-variant-partially-evade-Covid-vaccines-just-like-Beta-health-chiefs-warn.html. Accessed 20.3.2022. Text 13.

Cullen, Paul. 2021. “Covid-19: Indian variant a ‘black cloud on horizon’, says Holohan.” *Irish Times,* https://www.irishtimes.com/news/health/covid-19-indian-variant-a-black-cloud-on-horizon-says-holohan-1.4571384. Accessed 20.3.2022. Text 14.

Green, Roy. 2022. “Breggin, McCullough warn that vaccines are more dangerous than COVID-19 – Brighteon.TV.” *Deception.news*, https://www.deception.news/2022-01-19-vaccines-more-dangerous-than-covid-itself.html#. Accessed 21.3.2022. Text 23.

The Guardian. 2022. “Omicron: what do we know about ‘stealth’ subvariant BA.2?” https://www.theguardian.com/world/2022/jan/31/omicron-what-do-we-know-about-stealth-subvariant-ba2. Accessed 19.3.2022. Text 7.

Huff, Ethan. 2021. “In Germany, not a single child under 18 died from covid during first 15 months of plandemic.” *NewsTarget,* https://newstarget.com/2021-12-08-germany-no-children-under-18-died-covid.html. Accessed 21.3.2022. Text 22.

Huff, Ethan. 2021. “Middlebury College in Vermont goes ballistic over new ‘covid’ outbreak, which occurred despite 99% vaccination rate” *Natural News*, https://naturalnews.com/2021-12-15-middlebury-vermont-ballistic-covid-outbreak-despite-vaccination.html. Accessed 21.3.2022. Text 25.

Huff, Ethan. 2021. “Omicron could actually be the SOLUTION to the entire covid plandemic.” *Natural News*, https://naturalnews.com/2021-12-13-omicron-could-be-solution-entire-covid-plandemic.html. Accessed 21.3.2022. Text 28.

Huff, Ethan. 2021. “Pfizer CEO aggressively pimping FOURTH booster shot, proving it was always going to be a SERIES of shots that didn’t stop covid.” *NewsTarget*, https://newstarget.com/2021-12-17-pfizer-ceo-four-booster-series-shots-covid.html. Accessed 21.3.2022. Text 21.

Huff, Ethan. 2021. “RealNotRare.com tells stories about widespread COVID ‘vaccine’ injuries and deaths that the pharma-controlled media are trying to bury.” *NewsTarget*, https://newstarget.com/2021-12-17-realnotrare-tells-stories-covid-vaccine-injuries-deaths.html. Accessed 21.3.2022. Text 27.

Huff, Ethan. 2021. “Thomas Renz: Everything about the plandemic is based on fear and manipulation.” *Natural News*, https://naturalnews.com/2021-12-18-thomas-renz-plandemic-based-on-fear-manipulation.html. Accessed 21.3.2022. Text 29.

Huff, Ethan. 2022. “VACCINE WARNING: mRNA spike proteins linked to infertility in next generation via engineered ‘ovarian failure’.” *NewsTarget*, https://newstarget.com/2022-03-15-mrna-spike-proteins-linked-infertility-next-generation.html. Accessed 21.3.2022. Text 26.

Huff, Ethan. 2022. “Covid is a global psy-op: There is no real medical emergency.” *Pandemic.news*, https://pandemic.news/2022-01-20-covid-global-psyop-no-real-medical-emergency.html. Accessed 21.3.2022. Text 24.

Lubel, Maayan. 2021. “South African variant may 'break through' Pfizer vaccine protection, but vaccine highly effective, Israeli study says.” *Reuters,* https://www.reuters.com/world/middle-east/south-african-variant-may-break-through-pfizer-vaccine-protection-vaccine-highly-2021-04-18/. Accessed 20.3.2022. Text 15.

Mayo Clinic. “Coronavirus disease 2019 (COVID-19).” https://www.mayoclinic.org/diseases-conditions/coronavirus/symptoms-causes/syc-20479963. Accessed 16.3.2022. Text 4.

McNeil, Donald G. Jr. 2020. “Wuhan Coronavirus Looks Increasingly Like a Pandemic, Experts Say.” *The New York Times,* https://web.archive.org/web/20200202194034/https://www.nytimes.com/2020/02/02/health/coronavirus-pandemic-china.html. Accessed 19.3.2022. Text 8.

Mueller, Benjamin and Carl Zimmer. 2021. ” U.K. Virus Variant Is Probably Deadlier, Scientists Say.” *The New York Times,* https://www.nytimes.com/2021/02/13/world/europe/covid-uk-variant-deadlier.html. Accessed 20.3.2022. Text 12.

National Center for Biotechnology Information. 2020. “Wuhan seafood market pneumonia virus isolate Wuhan-Hu-1, complete genome.” https://www.ncbi.nlm.nih.gov/nuccore/NC_045512.1. Accessed 16.3.2022. Text 6.

National Health Service. “How to avoid catching and spreading coronavirus (COVID-19).” https://www.nhs.uk/conditions/coronavirus-covid-19/how-to-avoid-catching-and-spreading-coronavirus-covid-19/. Accessed 15.3.2022. Text 3.

Phillips, Tom and Dan Collyns. 2021. “Brazil’s ‘rapid and violent’ Covid variant devastates Latin America.” *The Guardian,* https://www.theguardian.com/world/2021/apr/23/brazils-rapid-and-violent-covid-variant-devastates-latin-america. Accessed 20.3.2022. Text 16.

Pregnancy, Birth and Baby. 2021. “Pregnancy, parenting, and COVID-19.” https://www.pregnancybirthbaby.org.au/covid-19-information-for-pregnancy-and-parents. Accessed 15.3.2022. Text 2.

Rachwani, Mostafa. 2022. “NSW reports 52 Covid deaths in deadliest day of pandemic as ‘son of Omicron’ cases emerge.” *The Guardian,* https://www.theguardian.com/australia-news/2022/jan/30/nsw-reports-52-covid-deaths-in-deadliest-day-of-pandemic-to-date-as-son-of-omicron-variant-cases-emerge. Accessed 20.3.2022. Text 17.

Sparks, Dana. 2021. “How well do you know COVID-19 terminology?” Mayo Clinic, https://newsnetwork.mayoclinic.org/discussion/how-well-do-you-know-covid-19-terminology/. Accessed 16.3.2022. Text 5.

Stillness in the Storm. 2021. “Covid ‘Delta Variant’ Is Just a Fancy Name for Vaccine Injury.” https://stillnessinthestorm.com/2021/06/covid-delta-variant-is-just-a-fancy-name-for-vaccine-injury/. Accessed 21.3.2022. Text 20.

Wells, S. D. 2021. “Americans get 90 DAYS IN JAIL for simply keeping their businesses OPEN during the scamdemic, while Walmart, McDonald’s, Amazon rake in a fortune.” *NewsTarget*, https://newstarget.com/2021-12-21-americans-jailed-keeping-businesses-open-scamdemic.html. Accessed 21.3.2022. Text 19.

Primary sources B: 2009 H1N1 pandemic

BBC News. 2009. “Experts probe deadly Mexico flu.” https://web.archive.org/web/20090427082857/http://news.bbc.co.uk/1/hi/world/americas/8016909.stm. Accessed 23.3.2022. Text 39.

BBC News. 2009. “Suspected Mexico flu toll hits 81.” https://web.archive.org/web/20090427013022/http://news.bbc.co.uk/1/hi/world/americas/8018991.stm. Accessed 23.3.2022. Text 35.

The Daily Mail. 2009. “Killer pig flu threat to UK: Two people admitted to British hospital as virus which has killed 86 spreads worldwide.” https://web.archive.org/web/20090429005742/http://www.dailymail.co.uk/news/worldnews/article-1173263/Killer-pig-flu-threat-UK-Two-people-admitted-British-hospital-virus-killed-86-spreads-worldwide.html. Accessed 23.3.2022. Text 40.

Fassa, Paul. 2009. “Doctors in Mexico City Cured 2009 Swine Flu with Homeopathy.” *Natural News*, https://naturalnews.com/026839_flu_homeopathy_remedies.html. Accessed 23.3.2022. Text 41.

National Health Service. 2009. “Important information about swine flu.” https://web.archive.org/web/20091206024352/http://www.nhs.uk/conditions/pandemic-flu/Pages/Introduction.aspx. Accessed 23.3.2022. Text 33.

National Health Service. 2009. “Swine flu.” https://web.archive.org/web/20091201092730/http://www.nhs.uk/Conditions/Pandemic-flu/Pages/Causes.aspx. Accessed 23.3.2022. Text 34.

The New York Times. 2010. “Swine Flu (H1N1) Vaccine.” https://web.archive.org/web/20100613193434/http://www.nytimes.com/info/swine-flu-h1n1-vaccine/?inline=nyt-classifier. Accessed 23.3.2022. Text 37.

Reuters. 2009. “Mexican flu outbreak may be mild: CDC.” https://www.reuters.com/article/us-flu- cdc-idUKTRE54041R20090501. Accessed 23.3.2022. Text 38.

Soonprasert, Kittipong. 2009. “Asia pledges common fight against flu.” *Reuters*, https://web.archive.org/web/20090511225025/http://www.reuters.com/article/worldNews/idUSTRE5470NF20090508. Accessed 23.3.2022. Text 36.

World Health Organization. 2009. “Influenza A(H1N1) – update 7.” https://web.archive.org/web/20090501210309/http://www.who.int/csr/don/2009_05_01/en/index.html. Accessed 23.3.2022. Text 31.

World Health Organization. 2009. “Pandemic (H1N1) 2009 – update 59.” https://web.archive.org/web/20090729214535/http://www.who.int/csr/don/2009_07_27/en/index.html. Accessed 23.3.2022. Text 32.

World Health Organization. 2009. “Swine flu illness in the United States and Mexico – update 2.” https://web.archive.org/web/20090715111952/http://www.who.int/csr/don/2009_04_26/en/index.html. Accessed 23.2.2022. Text 30.

SECONDARY SOURCES

Basturkmen, Helen and Catherine Elder. 2004. “The Practice of LSP.” In *The Handbook of Applied Linguistics*, ed. Alan Davies and Catherine Elder, 672–694. Oxford, UK: Blackwell.

Cabré Castellví, M. Teresa, Juan C. Sager and Janet Ann DeCesaris. 1999. *Terminology: Theory, Methods and Applications*. Amsterdam/Philadelphia: John Benjamins.

Carli, Augusto and Emilia Calaresu. 2007. “Language and science.” In *Handbook of Language and Communication: Diversity and Change,* ed. Marlis Hellinger and Anne Pauwels, 523–551. Berlin: Mouton de Gruyter.

Centers for Disease Control and Prevention. 2021. “Types of Influenza Viruses.” https://www.cdc.gov/flu/about/viruses/types.htm. Accessed 23.2.2022.

Fortuine, Robert. 2000. *The Words of Medicine: Sources, Meanings, and Delights*. Springfield, Illinois: Charles C Thomas.

International Committee on Taxonomy of Viruses. 2021. “ICTV Code.” https://talk.ictvonline.org/information/w/ictv-information/383/ictv-code. Accessed 23.2.2022.

International Committee on Taxonomy of Viruses. 2022. “Introduction.” https://talk.ictvonline.org/ictv-reports/ictv_online_report/introduction/. Accessed 8.3.2022.

Kamradt-Scott, Adam. 2017. “What Went Wrong? The World Health Organization from Swine Flu to Ebola.” *Political Mistakes and Policy Failures in International Relations*, ed. Andreas Kruck, Kai Opperman and Alexander Spencer, 193–215. Cham: Springer International.

Pango. 2020. “Rules for the Designation and Naming of Pango Lineages.” https://www.pango.network/the-pango-nomenclature-system/statement-of-nomenclature-rules/. Accessed 8.3.2022.

Pango. 2020. “The Pango dynamic nomenclature is a system for identifying SARS-CoV-2 genetic lineages of epidemiological relevance.” https://www.pango.network/. Accessed 8.3.2022.

Pugh, Jeanette M. and Juan C. Sager. 2004. “Terminology in Special Languages.” In *Morphologie/Morphology*, ed. Geert E. Booji, Joachim Mugdan, Wolfgang Kesselheim, Christian Lehmann and Stavros Skopeteas, Part 2, 1924–1928. Berlin and New York: De Gruyter.

Rogers, Margaret. 1997. “Synonymy and Equivalence in Special-Language Texts: A Case Study in German and English Texts on Genetic Engineering.” In *Text Typology and Translation*, ed. Anna Trogsborg, 217–245. Amsterdam: John Benjamins.

Sager, Juan C., David Dungworth and Peter F. McDonald. 1980. *English Special Languages: Principles and Practice in Science and Technology*. Weisbaden: Brandstetter.

Taylor, Robert B. 2017. *The Amazing Language of Medicine: Understanding Medical Terms and Their Backstories*. Springer International.

World Health Organization. 1980. “A revision of the system of nomenclature for influenza viruses: a WHO Memorandum.” *Bulletin of the World Health Organization,* 585–591.

World Health Organization. 2011. “Standardization of terminology of the pandemic A(H1N1)2009 virus.” https://web.archive.org/web/20120505042135/http://www.who.int/influenza/gisrs_laboratory/terminology_ah1n1pdm09/en/. Accessed 22.3.2022.

World Health Organization. 2015. “World Health Organization Best Practices for the Naming of New Human Infectious Diseases.” https://www.who.int/publications/i/item/WHO-HSE-FOS-15.1. Accessed 23.2.2022.

World Health Organization. 2020. “Naming the coronavirus disease (COVID-19) and the virus that causes it.” www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/naming-the-coronavirus-disease-(covid-2019)-and-the-virus-that-causes-it. Accessed 23.2.2022.

World Health Organization. 2021. “WHO announces simple, easy-to-say labels for SARS-CoV-2 Variants of Interest and Concern.” https://www.who.int/news/item/31-05-2021-who-announces-simple-easy-to-say-labels-for-sars-cov-2-variants-of-interest-and-concern. Accessed 10.3.2022.

APPENDICES

Appendix 1. Disease and virus terms of the 2019 coronavirus pandemic.

Media channel	**Terms for the disease**	**Terms for the virus and the virus variants (italicised)**
Medical agencies	Coronavirus disease (COVID-19) Coronavirus disease 2019 (COVID-19) COVID-19 COVID-19 (coronavirus disease 2019)	Coronavirus Coronavirus (COVID-19) Novel coronavirus (COVID-19) *Omicron* SARS-CoV-2 Wuhan seafood market pneumonia virus
Medical institutions	Coronavirus disease Coronavirus disease 2019 (COVID-19) COVID-19	Coronavirus The COVID-19 virus The new coronavirus (COVID-19) *Omicron* SARS-CoV-2 The virus that causes COVID-19
Medical websites	Coronavirus (COVID-19) Coronavirus disease 2019 (COVID-19) COVID-19	The 2019 coronavirus Coronavirus *Omicron* SARS-CoV-2 The SARS-CoV-2 virus (severe acute respiratory syndrome coronavirus 2)
News media	Covid COVID Covid-19 COVID-19	*B.1.351* *The B.1.617 variant* *B.1.621* *BA.2* *Brazilian variant* *British variant* *Colombian variant* The coronavirus *Covid Indian variant* *Indian strain* *Indian variant* *Kent variant* *Novel coronavirus* *Omicron's 'close cousin'* *'Omicron's little brother'* The SARS-CoV-2 virus *South African variant* *'Son of Omicron'* The virus Wuhan coronavirus

Disinformation websites	COVID-19 China Flu China-disease Covid Covid-19 Fauci Disease Fauci Flu Wuhan disease	The China virus The Chinese virus COVID-19 virus Fauci Germs The Fauci Virus *The Moronic variant* *"Omicron"* (Moronic) SARS Covid-19 virus SARS Virus C-19 *The vaxx variant* The Wuhan coronavirus (COVID-19)

Appendix 2. Disease and virus terms of the 2009 H1N1 pandemic.

Media channel	**Terms for the disease**	**Terms for the virus**
Medical agencies	2009 H1N1 2009 H1N1 flu H1N1 H1N1 Flu (Swine Flu) H1N1 influenza H1N1 swine flu Human Swine Flu Influenza A (H1N1) Influenza-like illness Pandemic (H1N1) 2009 Pandemic (H1N1) 2009 (Human Swine Flu) Swine flu Swine flu (H1N1) Swine flu illness Swine influenza Swine influenza A (H1N1)	2009 H1N1 2009 H1N1 flu virus The 2009 H1N1 virus A(H1N1)pdm09 A/H1N1pdm09 virus H1N1 2009 virus The H1N1 flu virus The (H1N1)pdm09 virus H1N1 swine flu virus H1N1 virus Influenza A(H1N1) virus The new H1N1 virus Pandemic influenza A (H1N1) virus Swine flu virus Swine Influenza A/H1N1 virus

Medical institutions	H1N1 H1N1 (swine) flu H1N1 flu Swine flu Swine influenza	H1N1 H1N1 (swine) The H1N1 virus The swine flu virus Swine influenza virus subtype A H1N1 virus
Medical websites	H1N1 (swine) flu H1N1 flu H1N1 swine flu Swine flu	H1N1 The H1N1 flu virus The H1N1 swine flu virus The H1N1 virus The H1N1 virus (swine flu) The new H1N1 The new swine flu virus Swine flu
News media	The H1N1 2009 influenza H1N1 swine flu Influenza "A" (H1N1) The influenza "A" (H1N1) strain of swine flu Mexican flu Mexico flu Pandemic flu Pandemic H1N1 influenza Pig flu Swine flu Swine flu (H1N1)	H1N1 H1N1 flu virus The H1N1 2009 The H1N1 2009 virus The H1N1 strain of swine flu The H1N1 virus Influenza A(H1N1) The novel H1N1 virus The pandemic H1N1 strain Pandemic H1N1 virus The pandemic virus Pig flu virus The swine flu virus
Disinformation websites	2009 Mexican Flu 2009 Swine Flu H1N1 (Swine Flu) H1N1 flu H1N1 influenza (Swine Flu) H1N1 influenza" H1N1 swine flu Swine flu	H1N1 h1n1 H1N1 virus The novel H1N1 Swine flu virus