COVINFORM

CORONAVIRUS VULNERABILITIES AND INFORMATION DYNAMICS RESEARCH AND MODELLING

D3.4 Case study reports and comparative report (phase 1)

This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement No 101016247.

Project

Acronym	**COVINFORM**
Title	COronavirus Vulnerabilities and INFOrmation dynamics Research and Modelling
Coordinator	SYNYO GmbH
Reference	101016247
Type	Research and Innovation Action (RIA)
Programme	HORIZON 2020
Topic	SC1-PHE-CORONAVIRUS-2020-2C Behavioural, social and economic impacts of the outbreak response
Start	01 November 2020
Duration	36 months
Website	https://covinform.eu

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Acknowledgement: This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement No 101016247.

Deliverable

Number	**D3.4**
Title	**Phase 1 case study reports and comparative report**
Lead beneficiary	FS
Work package	WP3
Dissemination level	Public (PU)
Nature	Report (RE)
Due date	30.04.2022
Submission date	29.04.2022
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Document history

Version	Date	Comments
0.1	15.03.2022	First draft
0.2	24.03.2022	Second draft
0.3	31.03.2022	Final draft for internal review
0.4	04.04.2022	Submitted for quality check (Subsections not filled in are due to missing information not provided by partners, e.g.: MDI's case study not included as their report is still missing; SINUS is also yet to provide their input to their joint case study with UGOT)
1.0	29.04.2022	Final submission (still some missing information - to be included in the next update of this deliverable – D3.5)

Executive Summary

This deliverable concerns to the case study research, focusing on vulnerable populations and on identifying vulnerability and adaptation communalities which increase vulnerability and/or resilience to COVID-19 impacts across several relevant system levels (e.g., governance, public health, community, information), through a multidisciplinary, intersectional & complex systems approach.

From a conceptual perspective, this deliverable validates the SES Framework proposed to provide a comparative evaluation of the 10[1] case studies: FS (Portugal); UANTWERP (Belgium); URJC & SAMUR (Spain); SAPIENZA & UCSC (Italy); SYNYO (Austria); SINUS & UGOT (Germany & Sweden); KEMEA (Greece); SWANSEA (Wales); and MDI (England).

All case studies, despite their different objectives, are focused in better understanding the ways the pandemic impacted certain vulnerable communities. In order to do so, secondary (e.g., existing databases) and primary data (e.g., interviews) involving the different systems (national and local) has been collated to provide a baseline overview, at different time points of the pandemic.

This first phase of the case study research entails the identification of variables and indicators which help to characterize the systems surrounding the target populations, as well as the outcomes resulting from the interaction between systems and within each system. This allows for a better understanding of the resilience of target populations and policy-making organizations from a systems-driven point of view. This process will allow a more precise determination of the weights of different variables in predicting resilience that is a central point in the risk assessment model presented in WP2.

As the primary and secondary data collection activities are ongoing, rather than a comparative evaluation of the findings, this deliverable presents a cross-analysis of the characterization of the relevant systems identified across all case studies. In addition, we present the vulnerability and protective factors (variables and indicators) hypothesized to mitigate and/or enhance COVID-19 impacts on the chosen vulnerable target populations, throughout several time points of the pandemic. It is expected that the field work will provide insight regarding the fit of these hypothesized factors and the identification of others not considered, should they prove to be significant.

[1] In this deliverable the case studies conducted by SINUS and UGOT will be described at ones as they are following the same approach. However, they represent two individual case studies.

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Acronyms & Abbreviations

Term	Description
EOHSP	European Observatory on Health Systems and Policies
NAS	National Academies of Sciences
SES	Socio-Ecological System
WHO	World Health Organization
VTP	Vulnerable target population
FS, Portugal	
DGS	General Health Directorate
ENSP	National School of Public Health
LTCF	Long term care facility
MSSS	Ministry of Solidarity and Social Security
SNS	National Health Service
SS / ISS, I.P.	Social Security
URJC & SAMUR, Spain	
EPA	Encuesta de Población Activa (Active Population Survey)
GDP	Gross Domestic Product
GDPR	General Data Protection Regulation
HCW	Health Care Workers
INE	Instituto Nacional de Estadística (National Statistics Bureau)
RMI	Revenu mínimum d'insertion
SYNYO, Austria	
AK	Arbeiterkammer
ÖGB	Österreichischer Gewerkschaftsbund (Austrian Trade Union)
WKO	Wirtschaftskammer Österreich
SWANSEA, Wales	
NHS	National Health Service
PHW	Public Health Wales
VoC	Variant of Concern
MDI, England	
HTRC	Hard to reach communities

1 Introduction

The spread of a novel, highly transmissive, virus naturally triggers a variety of responses. Who is at risk of direct health impacts? Who might suffer repercussions from indirect disruption to their lives and livelihoods after a formal or informal reduction in social activity? And, how might our exposure to risk change over time? For SARS-CoV-2 – the virus leading to COVID-19 in affected patients – these questions appeared early in the pandemic (January 2020), were reiterated often (over two years, for multiple waves and variants), and reinforced bitter debate amongst politicians and scientists regarding the appropriate responses. As of this writing (March 2022), over two years after much of the world 'locked down' to limit disease transmission, many are seeking to resolve core questions stemming from a collection of concerns relating to the mitigation and enhancement of COVID-19 impacts.

WP3 aims to tackle some of them: For instance, do different countries or communities experience different levels of risk and impacts of COVID19, particularly vulnerable populations, and why? Thus, this deliverable regards the first phase of case study research which entails mainly secondary data collection regarding the norms, policies, guidelines, and measures decreed by the different governance systems (national and local). These governance systems ultimately define the settings in which COVINFORM vulnerable target populations live in, as well as the resources and activities of which interaction influences the outcomes related to COVID-19 impacts. This interplay is understood through the lens of intersectionality and a complex systems approach, from a syndemic perspective (Singer, 2009) and socio-ecological system (SES) framework (McGinis & Ostrom, 2014; Ling et al., 2021).

The main goals are to:

- Identify vulnerability and protective factors of both vulnerable populations and the systems/settings they are a part of, by describing the variables and indicators which characterize the relevant systems involved, providing insight regarding the resilience of such – from a system-driven point of view;
- Understand how those factors accumulate to enhance COVID-19 impacts (cumulative), as well as how they interact with one another (synergic), throughout several time points of the pandemic, providing insight to the risk assessment framework being developed in WP2;
- Understand the commonalities across several relevant dimensions (e.g., governance – WP4; public health – WP5; community – WP6; and information – WP7) and what is and is not generalizable across case studies;
- Identify continuous data collection needs in order to later provide input for public-facing material created in WP8 (e.g., recommendations, guidelines, and tool development) regarding the lessons learnt so far.

Therefore, this deliverable presents the 10 case studies reports (FS – Portugal; UANTWERP – Belgium; URJC & SAMUR – Spain; SAPIENZA & UCSC – Italy; SYNYO – Austria; SINUS – Germany; UGOT – Sweden; KEMEA – Greece; SWANSEA – Wales; and MDI - England), and an initial cross-analysis of variables and indicators identified in each case study as the most relevant characteristics of the systems which may influence outcomes, mitigating or enhancing COVID-19 impacts throughout several time points of the pandemic.

The hypothesized vulnerability and protective factors will be further explored during the second phase of case study research (mainly primary data collection through interviews) providing the opportunity to conduct a thorough comparative evaluation of the findings across all case studies.

2 Case Study Framework Conceptualization

In the pandemic's first year, clues emerged that the prevalence of certain health conditions (e.g., diabetes, hypertension/heart disease, immune deficiency, reduced pulmonary function, and many others) might be deterministic of severe health outcomes; while such factors are important for COVID prognoses amongst individual patients, they offer an incomplete account of why certain countries or communities have experienced more severe and lasting health impacts than others (Cegan et al., 2021; Thakur et al., 2021). Likewise, clear and deterministic theories of how and to what extent COVID response influences long-term social and economic outcomes are elusive (Ligo et al., 2021; Galaitsi et al., 2021). Even the effectiveness of top-down government efforts to address the pandemic's health risks, while mitigating the socioeconomic outcomes, have varied considerably despite similarities in governing stringency and economic assistance (Jarman, 2021; Achuo, 2020; Trump et al., 2020; Wang, 2021; Ang & Dong, 2022).

A burgeoning corpus of scholarly evidence has made one point abundantly clear: comparative analysis of COVID research, and conducting comparative analyses of various countries and communities in a manner that is generalizable to others, is exceedingly complex. The availability of health data – ranging from direct epidemiological evidence of COVID, to indirect population health variables such as the prevalence of chronic illness – is inconsistent across countries and even cities (Cramer et al., 2021; Stock, 2020). Likewise, gaps in economic, social, and vocational data make it challenging to evaluate indirect pandemic consequences upon society (Hynes et al., 2021). Given this, as global society seeks to make sense of two years of pandemic experience in order to better inform future response and recovery, overcoming these gaps and incongruities to identify common approaches for pandemic management is critical.

This is even more critical given that the creation of a Risk Assessment framework (developed in WP2) it is of a major relevance. Hence, in order to be dynamically applied, it has to be centred in the resilience prediction and determination. In WP2 it was possible to enumerate the variables/indicators that explain both the threat (risk object) and resilience (defined as the capability to adapt and to recover), as well as the interplay between the vulnerabilities and the consequences (impacts). WP3 has the mission to make a more precise use of these type of dimensions by trying to make sense of that interaction in a more dynamic way.

Resilience is the outcome of the functioning of a given system before, during and after a disruptive event. That outcome can be classified as: resilient – if the system maintains its essential characteristics, or if it can regain its formal dynamics after the disruption); or non-resilient – if the transformations entail a deep modification of its rules (see Palma-Oliveira & Trump, 2017). COVID-19 has produced these different types of outcomes.

The input to a dynamic comprehension of the risk assessment framework and the focus on resilience dimensions can only be deeply grasped if one uses a dynamic systemic framework.

2.1 Syndemic Approach & Socio-Ecological Systems Framework

Recent decades of economic and social activity have emphasised efficiency in the operation, management and outcomes of various systems. This has brought much of the world to rely upon complex, nested, and interconnected systems to deliver goods and services around the globe. While

this has rendered considerable opportunities to many nations, it has also made systems we rely on in our daily lives (e.g., international supply chains) vulnerable to sudden and unexpected disruption.

This deliverable tackles a portion of this problem by utilizing systems theory to evaluate the effect of COVID health and socioeconomic disruption on various demographic groups across Europe. In the health systems it was introduced the concept of Syndemics. In a nutshell, Singer and plenty of other authors try to understand the fact the disease is "both (a) pathological reality and (b) social construction" (Hays, 2000, p. 2), something that is easily acknowledged in the case at hand. Although some of the research, by design, tries to distinguish and eliminate the confounding (or even comorbidity) variables, there is an increasing amount of data that shows that diseases have spread (even if they are induced by a specific pathogen – live SARS-COV-2), and that health implications are impossible to understand without the analysis of an array of factors and their interplay. The existence of a pathogen does not guarantee its effects in the absence for specific psycho-physiological, social, economic, and so on.

COVID-19 being evaluated as a syndemic disease was proposed in early 2020´s once it was recognized that:

> "All of our interventions have focused on cutting lines of viral transmission, thereby controlling the spread of the pathogen. The 'science' that has guided governments has been driven mostly by epidemic modellers and infectious disease specialists, who understandably frame the present health emergency in centuries-old terms of plague. But what we have learned so far tells us that the story of COVID-19 is not so simple. Two categories of disease are interacting within specific populations—infection with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and an array of non-communicable diseases (NCDs). These conditions are clustering within social groups according to patterns of inequality deeply embedded in our societies. The aggregation of these diseases on a background of social and economic disparity exacerbates the adverse effects of each separate disease." (Norton, 2020, p. 874).

This perspective is well depicted in Figure 1, presented by Yadav et al. (2020). Thus, we can evaluate the COVID-19 epidemic as a synergetic epidemic (or a "syndemic") because there is a clear interaction between socioecological and biological factors.

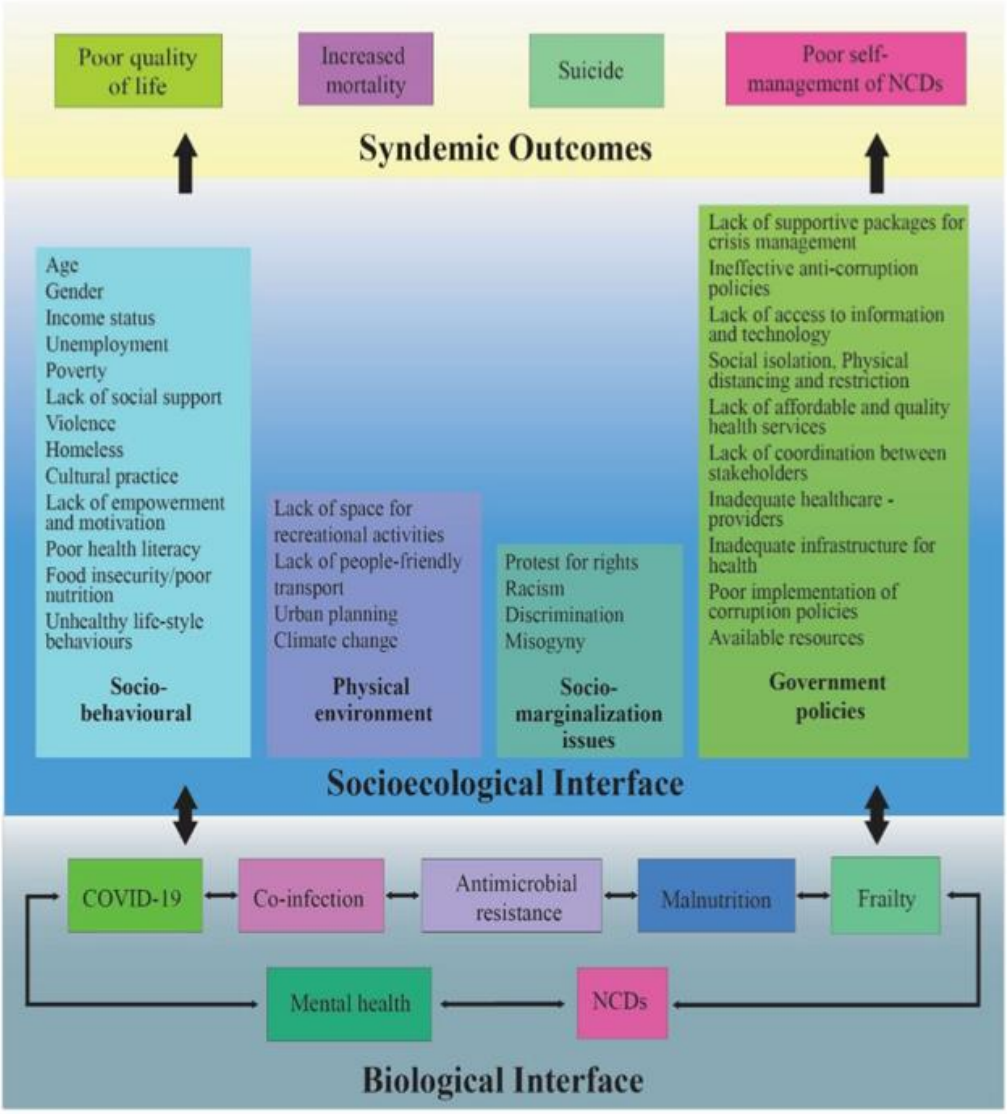

Figure 1. Factors responsible for COVID-19 syndemic outcomes among PLWNCDs (Yadav et al., 2020).

Complex systems analysis, including syndemic theory, seek to understand how feedback loops and nested dependencies form within and between communities, governments, and the environment (see Figure 1). Of critical interest is how disruption – either an acute catalyst or a chronic stress – percolates through that system.

Naturally, some elements of the system will resist disruption (they are 'robust'), while others will lose their fidelity. For the latter, a system may rapidly recover its original structure, function, and utility, while others may collapse or recover and adapt into something entirely different. For COVID, which truly became a 'crisis of crises' (including medical and public health disruption, global energy crises, rampant financial inflation, food shortages, regional war, and many others), the confluence of compound threats disrupted much of society's core systems (Massaro et al., 2018; Jiang et al., 2021; Haldon et al., 2022; Kharroubi et al., 2021). For vulnerable communities, including migrant communities and those of reduced socioeconomic status, the outcomes may include lost jobs or income, fewer available resources for public support, reduced participation in society and culture

amidst shelter-in-place efforts, reduced health and nutrition, and higher exposure to COVID-19 and other diseases.

The syndemic perspective, despite its immense contribution to a better understanding of the disease dynamic and differential consequences is not centred in the system as a whole and cannot furnish a description and / or comprehension of other outcomes and the resilience of the operating system. McGinnis and Ostrom (2014), and Ling et al. (2021) offer guidance of how to understand the dependencies and feedback loops within and between systems – ultimately generating a range of harms to specific communities and/or the public at large. Figures 2 and 3 depict the approach this deliverable uses to operationalize, both for direct and indirect outcomes.

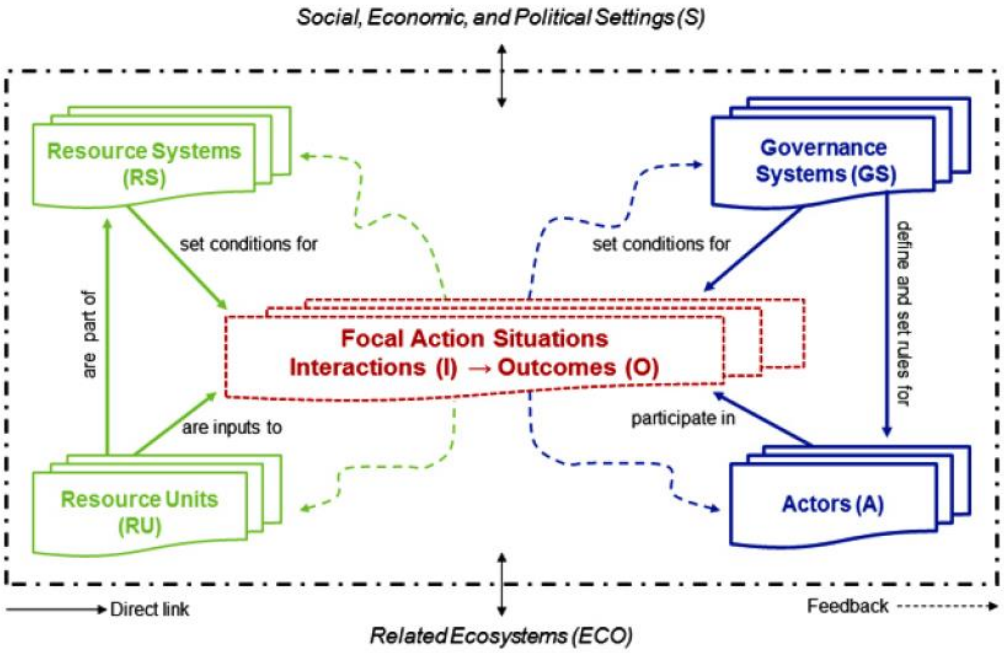

Figure 2. The SES framework (McGinis & Ostrom, 2014).

The SES framework was introduced as an analytical tool to understand systems, to indicate the main variables of concern in order to describe the determinants and constraints of a given system, as well as its resilience to rupturing events – either internal disruptions (like the depletion of resources) or external ones (like governance changes for a higher level the actors).

Moreover, given the heuristic capabilities of the SES model, it has been applied to a diverse array of contexts, including COVID-19. This framework was first proposed in D3.1 and since then some scholars have been adapting it to understand the differential behaviour and consequences of the epidemics in diverse systems. It is easy to understand how this framework can be applied to our research problem as the systemic view assumes that the system can be defined by the researcher taking in consideration its objective. This is a helpful simple way of empirically defining the contours of each case.

For instance, if we are dealing with a health system of a given nation or region it's easy to determine the users, the governance body and the direct and indirect rules, as well as the resource system and its resources. The normal functioning of this system produces interactions and a certain number of outcomes. The normal functioning of this system can be more or less stable in those 'normal' conditions. Given the confrontation with a rupture (like COVID-19) in a given system, all the factors

will be differentially disrupted. So, depending on the resources, the governance systems, and so on, being more or less flexible and resilient (i.e., more or less able to adapt and recover), the more or less impactful will be the changes induced by the rupture.

As can be easily understood, this dynamic fabric can not only isolate the factors already present in the understanding of the syndemic, but also point out the other effects and factors that go way beyond the normal description of the syndemic per se – which go into the description of the dynamics of the system and its resilience that has to be apprehended way further than the disease outcomes.

Ling et al. (2021) depict a good example of this framework applied to a set of different countries (see Figure 3). The goal was to understand the COVID-19 cases profile of those countries by the different fulfilment of the variables of concern. Our case studies not only try to understand that dynamic, but also understand the systems' resilience by national or local changes of the variables/indicators, i.e., how actors, resources, governance, and interaction copping strategies in relation with the rupture have other outcomes besides COVID-19 – e.g., differential and acute underemployment, higher risk perception, etc.

Despite lingering data gaps and incongruities across different countries and cities, this approach allows for comparative analysis by trying to understand the structure of societal systems before COVID and at various intervals throughout the pandemic, rather than overemphasizing the need for large datasets. Instead, a mixed-methods approach, utilizing some quantitative data alongside robust qualitative inquiry, can characterize local systems in a manner consistent with syndemic theory.

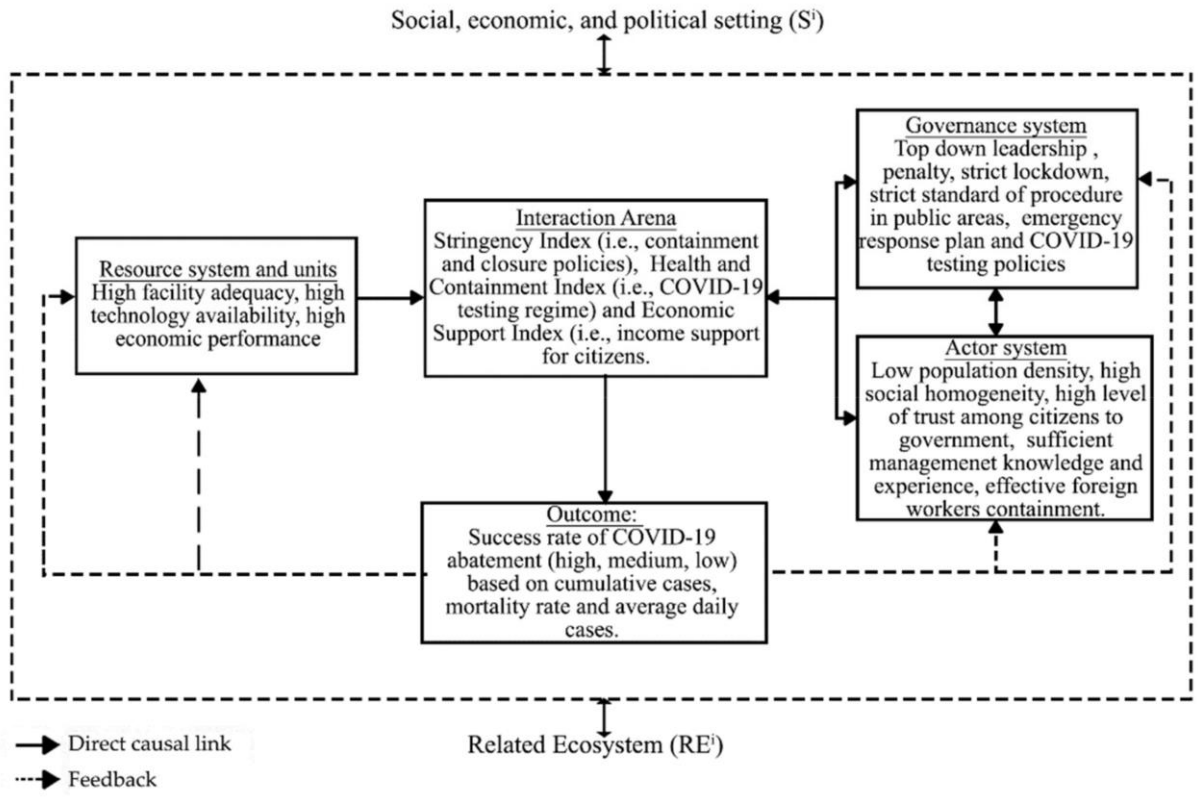

Figure 3. The SES framework in the Covid-19 context (Ling et al., 2021).

Characterization of Systems

In a first phase, in order to better understand the realities and context of the vulnerable target populations under study, besides identifying the relevant outcomes, each partner described and characterized the different systems involved in the most objective way possible regarding their case study, by identifying the variables and indicators within each system.

Systems can be defined as the community, target groups, and organizations involved. Each system has its own norms, resources, measures, and outputs that shape people's lives, experiences, and well-being. Their characterization paves way to a better understanding of cumulative and synergic factors, as well as the whole dynamic of vulnerabilities and responses which contribute to the enhancement or mitigation of COVID-19 impacts.

Systems can be described/characterized by identifying their properties – i.e., variables –, and how to measure them (both quantitatively and qualitatively according to the best fit). Indicators are ways of measuring or quantifying variables. Outcomes are the dependent variables, so we want to understand the dynamics between our variables, in order to see if and how the outcomes differ and what is the role/influence of each of the others on such.

Lastly, of course there's going to be a substantial qualitative element that is unquantifiable and that isn't necessarily generalizable or comparable across case studies, however, having control/baseline data is important to understand the changes and differences we hope to find in our target populations. Without a control/baseline we would only be describing certain people instead of demonstrating how a given sample of a population is indeed vulnerable and how these vulnerabilities accumulate and interact to enhance COVID-19 impacts on their lives and well-being.

Providing a comparable baseline offers insight into how vulnerable target populations were affected, i.e.: what are the disruptions and characteristics; how these individual groups experience the pandemic versus how the broader population experiences it and why; what were the changes across different points in pandemic time; what systems (population groups and organizations) coped better or were more resilient and why, etc.

2.2 Systems-driven view of resilience

System's resilience (e.g., health system, social services) is key to coping with catastrophic events, such as the COVID-19 pandemic, however there is still confusion about what resilience means, how to strengthen it and how to assess it (EOHSP, 2020). The National Academies of Sciences (NAS) has defined resilience as "the ability to plan and prepare for, absorb, recover from, and adapt to adverse events" (Council NR, cited in Klasa et al., 2021). Klasa et al. (2021) also state that resilience is conceptualized as either a mediator or a moderator in exposure-outcome relationships according to current health-based literature. Nevertheless, being aware of the importance of longer-term planning and preparedness reinforces the need to better understand systems' vulnerability and protective factors and how to respond resiliently to the outbreak, particularly in the face of the influenza season, economic impacts and potential resurgence of COVID-19 new waves and its consequences (WHO, 2020).

Since the assessment of systems resilience is crisis- and context-specific, it is important to employ a range of both quantitative and qualitative indicators that allow evaluation of particular aspects of systems resilience in order to provide a meaningful overall assessment (WHO, 2020), as well as

analysing experiences of other countries and different communities provides useful lessons for policy-makers implementing resilience-enhancing strategies – as the link between recovering from the shock to preparedness for future shocks is an area often neglected once systems return to post-shock 'normality' (WHO, 2020).

Bridging with the SES view, Walker et al. (2002, p.?) states that:

> *"The goal of resilience management is to prevent an SES from moving into undesirable configurations. It depends on the system being able to cope with external shocks in the face of irreducible uncertainty. In turn, this requires understanding where resilience resides in the system, and when and how it can be lost or gained."*

Thus, understanding this phenomenon entails the identification of vulnerability and protective factors that shape mainly individual experiences and cultural conditions through a dynamic, context-dependent and changing environment perspective:

- Vulnerability factors: increase people's exposure to risk and/or enhance the impacts of risk to which people are exposed to;
- Protective factors: mitigate the impacts of risk to which people are exposed to by preventing risk exposure and/or managing risk impacts.

Bridging with WP2 risk assessment framework, it is the balance (cumulative and synergic) between vulnerability and protective factors (which may be related to domains such as: physical, social, economic, and information) that dictates the degree of resilience of a given system/population, that is, its ability to adapt and recover, reducing the risk consequences/impacts caused by the COVID-19 threat.

Nonetheless, it is important to stress that resilience is not always a good propriety of the system as some systems become undesirably resilient. For instance, some of the vulnerability factors pointed out in the case studies show how some systems are in a state of 'bad' resilience – that is, vulnerabilities that are stable, have a higher probability of deepening the consequences of COVID-19 ruptures. Therefore, the hypothesis will be that, in those systems, vulnerabilities will be strengthened and the 'bad' resilience of the system will be reinforced. Having a syndemic view and a SES analysis mind set, one can argue that the resilience of present day systems is negative and COVID-19 will accelerate that negative resilience.

3 COVINFORM Case Studies: Phase 1

Each following chapter entails a brief overview of the case study, as well as the pandemic timeline established, followed by the characterization of the vulnerable target population and the characterization of several relevant systems involved. These characterizations provide an identification of the vulnerability and resilience factors considered most relevant for the populations under study, as well as a better understanding of how the different systems and factors interact with each other, resulting in the mitigation or enhancement of COVID-19 impacts – following the SES Framework mentioned above (see Appendixes A1 to A9 for the diagrams/matrixes of the SES framework, timeline, and location of each case study).

These next subsections are summaries of the main relevant information at this point from the original Case Study Reports submitted by each partner to the WP leader (FS). No plagiarism is intended, note that the text presented in each subsection included next was written by team members of given partners and included here in an attempt to standardize the presentation of all data and information.

3.1 FS: Portugal

3.1.1 Overview & Timeline

Portugal's case study focuses on resilience of the 3 types of LTCFs, as well as their elderly residents' resilience, located in Évora city. The 3 types of LTCFs (Private, Public, and the 3rd sector) are linked to different levels of governance (e.g., national norms and policies – Portugal -, regional measures – Alentejo region -, local implementation – Évora city, and resources of each LTCF to be interviewed – within each type of LTCF). These levels of governance entail different entities to be considered (e.g., National Health Directorate (DGS), Social Security (SS), Local Authorities/City Council, Churches/Religious structures, Civil Society Organizations, Private investors).

Portugal's case study focuses on elderly people living in LTCFs as the vulnerable target population and we are mostly interested in analysing their perceptions, behaviours, and psychosocial well-being. Moreover, we will collect data on epidemiological outcomes from these LTCFs, as well as guidelines and measures implemented by the governance body of each LTCF and national policies decreed by LTCFs Associations, and Social Security). If possible, we will further analyse their social support network (e.g., visiting relatives), as well as different workers in those LTCFs (e.g., professional health workers, cleaning staff, administrative staff). We will consider secondary data regarding epidemiological outcomes of elderly living in LTCFs at a national level, as well as elderly not living in LTCFs (if available).

- T0: Before the COVID-19 pandemic onset (baseline/control);
- T1: During initial outbreak and lockdown measures (March to May 2020);
- T2: Vaccination rollout (December 2020 to April 2021);
- T3: Detection of variants of concern (October 2021 to February 2022).

3.1.2 Characterization of vulnerable target populations

Portugal's case study will focus on dependent elderly living in LTCFs of different SES and conditions (Public vs. Private vs. 3rd Sector). Although the elderly group age is defined as aged over 65, we will consider people over 60 because of the high prevalence in LTCF from that age on. If possible, we will also gather information/data from their social support network (e.g., visiting relatives), governance body (e.g., chief administration of LTCFs Associations, SS body), and staff working in LTCFs (e.g., professional health workers, cleaning staff).

Évora city is located in the largest region of Portugal (Alentejo), which has a population density of 22.3 (PORDATA, 2021) and 704.707 inhabitants (INE, 2021). The city of Évora is the 5th largest in Portugal with a population density of 41 (PORDATA, 2021) and 53.591 inhabitants (INE, 2021). Alentejo region has the highest age index (212.6%) and elderly dependency index (41.9%) (PORDATA, 2021).While Évora city presents an age index of 33.7% and an elderly dependency index of 178.3% (PORDATA, 2021). Évora has lost resident population in the last 10 years (INE, 2021). Moreover, Évora city's population aged 65 or over (12,633 people in total) accounts for 6.81% of Portugal's elderly population (INE, 2021) and of that total, 2,941 people were flagged by the law enforcement authorities (GNR) due

to their high vulnerability risk, poor life conditions, lack of social support or for being under health threats, even before the pandemic.

3.1.3 Characterization of identified systems

LTCFs are social response structures aimed at collective housing, for temporary or permanent use by elderly people. They provide social supports and basic health care, contributing to the well-being and social integration of its users, as well as stabilizing, empowering and stimulating active aging. Although they share the same goals, LTCFs differ from each other in terms of: accommodation type (e.g., residences, rooms/homes); density of residents and staff; activities provided (e.g., entertainment); amenities owned (e.g., articulated beds); health care services provided (e.g., physiotherapy); and price (low/high).

Table 1. Number of long term care facilities (LTCF) and maximum number of elderly residents (total capacity) at a national and local level.

	Portugal	Évora
Number of LTCF	2,568	101
Total Capacity	101,919	3,387

Since January 2020, Alentejo is the Portuguese region with the highest fatality rate (currently at 2.55%), as well as of November 2021, Évora was one of the cities with the most high-risk parishes/neighbourhoods (i.e., between 240 and 4,799 cases per 100 thousand inhabitants in 14 days) (ENSP, 2021). As of the 17th of December 2021, Alentejo recorded a total of 44,249 COVID-19 cases of infection and 1,077 deaths by COVID-19 (DGS, 2021), and in Évora, by the 12th of December 2021, 4,784 cases and 72 deaths by COVID-19 were reported.

During the winter of 2020 and the fall of 2021, there was a severe increase in the number of deaths. Interestingly, on April 2021, about 40% of total deaths reported in Portugal were stemming from elderly long-term facilities (LTCF) (Mamede, Pereira & Simões, 2020) and on November 2021, it represented about one third (TSF, 2021). Until that time, a total of 3,750 deaths of elderly living in LTCF were registered, of which 42% were between January and February 2021 (Expresso, 8 February 2021). Thus representing the strong challenges faced in trying to prevent and control the COVID-19 pandemic in elderly LTCF in Portugal, including personal and context characteristics mentioned before, particularly in cities such as Évora.

As off the 1st of December 2021, to prevent reaching maximum capacity, Évora's Hospital Espírito Santo adopted special measures for patients' visits, such as: scheduled visits in advance with each Service; one daily visitor, for a period not exceeding 15 minutes, as long as they present a COVID-19 Digital Certificate in the form of evidence for test or recovery certificate, and test with a negative result (PCR performed within 72 hours prior, or antigen test with laboratory report, carried out within 48 hours prior, or rapid antigen test (self-test), carried out within 24 hours prior and must be carried out in the presence of a healthcare professional or pharmaceutical area who certifies its performance and its result). In special cases (e.g., in end-of-life situations) there may be a higher number of visitors, to be evaluated on a case-by-case basis by the management of the respective Service. These were established according to the article 15 of the Resolution of the Council of Ministers No. 157/2021, of 27 November 2021.

Table 2. Number of long term care facilities (LTCF) per type and average number of elderly residents (ER) at target site level (Évora).

	Public	Private	3rd Sector	Total
LTCF	8	13	7	28
ER	UN	UN	UN	208
UN: Missing data will be collected with interview/survey to Social Security body.				

Baseline Norms for LTCFs established by Social Security structures (e.g., MSSS)

The maximum capacity of the residential structure is 120 residents, not less than 4 residents (MSSS, 2012, Article 6).

The residential structure is intended for (MSSS, 2012, Article 5):

- Housing people aged 65 or over who, for family reasons, dependence, isolation, loneliness or insecurity, cannot stay at your residence;
- Housing adults under the age of 65, in duly justified exceptional situations;
- Provide accommodation in specific situations, resulting from the absence, impediment or need for rest of the caregiver.

According to the Ministry of Solidarity and Social Security (MSSS, 2012, Article 3), the objectives of the residential structure are, namely, the following:

- Provide permanent and adequate services to the biopsychosocial problems of the old people;
- Contribute to the stimulation of an active aging process;
- Create conditions to preserve and encourage the intra-family relationship;
- Enhance social integration.

The residential structure is governed by the following operating principles (MSSS, 2012, Article 4):

- Quality, efficiency, humanization and respect for individuality;
- Interdisciplinary approach;
- Comprehensive assessment of the resident's needs;
- Promotion and maintenance of functionality and autonomy;
- Participation and co-responsibility of the resident or legal representative or family members, in the elaboration of the individual care plan.

The residential structure can assume one of the following types of accommodation (MSSS, 2012, Article 7):

- Housing typologies, namely apartments and/or houses;
- Rooms;
- Housing typologies together with accommodation in rooms.

The residential structure provides a set of activities and services (MSSS, 2012, Article 8), namely:

- Food adequate to the needs of residents, respecting medical prescriptions;
- Personal hygiene care;
- Treatment of clothing;
- Hygiene of spaces;

- Sociocultural, recreational and occupational activities aimed at contributing to a healthy relationship environment among residents and to the stimulation and maintenance of their physical and psychological abilities;
- Support in the performance of activities of daily living;
- Nursing care, as well as access to health care;
- Administration of drugs, when prescribed.

Article 8 (MSSS, 2012) also states that the residential structure must allow:

- Social coexistence, through the relationship between residents and between them and family and friends, with caregivers and with the community itself, according to their interests;
- The participation of family members or legal representative, in supporting the resident whenever possible and provided that this support contributes to a greater well-being and psycho-affective balance of the resident.
- Provide other types of services, aimed at improving the resident's quality of life, namely physiotherapy, hydrotherapy, image care and transport.
- Allow for religious assistance, whenever the resident requests it, or, in his/her inability, at the request of his/her relatives or legal representative.

It is mandatory to prepare an individual file for the resident, with respect for their life project, their potential and skills (MSSS, 2012, Article 9), which include, namely:

- Identification of the resident;
- Date of admission;
- Identification of the attending physician;
- Identification and contact details of the legal representative or family members;
- Identification of the social situation;
- Copy of the service provision contract;
- Health process, which can be consulted independently;
- Individual care plan (PIC), which must contain the activities to be carried out, the registration of the services provided and the identification of those responsible for the elaboration, PIC assessment and review;
- Registration of periods of absence, as well as occurrences of anomalous situations;
- Termination of the service provision contract with an indication of the date and reason.

The individual file must be updated and access is restricted under the terms of the applicable legislation.

The technical management of the residential structure is ensured by a technician with a degree in social and behavioural sciences, health or social services and, preferably, with professional experience to perform the duties (MSSS, 2012, Article 11). It is incumbent upon the technical director, in general, to direct the establishment, assuming responsibility for the programming of activities and the coordination and supervision of all staff, taking into account the need to establish the technical management model appropriate to the proper functioning of the establishment, particularly:

- Promote technical meetings with staff;
- Promote meetings with residents, namely for the preparation of
- activities to be developed;
- Make staff aware of the problem of the elderly;

- Plan and coordinate the social, cultural and occupational activities of the elderly.

The functions of the technical director may be exercised at 50%, when the capacity of the residential structure is less than 30 residents. When the capacity of the residential structure is less than 15 residents, the technical director may have a variable weekly schedule, but must ensure, at least, a daily stay of three hours in the establishment.

The residential structure must have personnel to ensure the provision of services 24 hours a day (MSSS, 2012, Article 12, see Table 4). Article 12 also states that whenever the residential structure accommodates elderly people in a situation of great dependence, the ratios of nursing staff, direct action assistant and auxiliary differ (see Table 3).

Table 3. LTCFs' norms regarding personnel.

Staff role	Specifications for overall LTCFs	Great dependency situations
Technical director	1	Unchanged
Sociocultural animator or social educator or geriatric technician	1 per 40 residents (part-time) = 3 for 120 residents	Unchanged
Nurse	1 per 40 residents = 3 for 120 residents	1 per 20 residents = 6 for 120 residents
Day time direct action helper	1 per 8 residents = 15 for 120 residents	1 per 5 residents = 24 for 120 residents
Night time direct action helper	1 per 20 residents = 6 for 120 residents	Unchanged
Person in charge of domestic services	1 when residents' number is equal or greater than 40	Unchanged
Cook	1 per establishment	Unchanged
Cook's assistant	1 per 20 residents = 6 for 120 residents	Unchanged
Auxiliary employee	1 per 20 residents = 6 for 120 residents	1 per 15 residents =8 for 120 residents

The indicators referred to in the previous numbers can be adapted, with the necessary flexibility, depending on the general characteristics, whether of installation, operation, or the number of residents of each residential structure.

The residential structure can count on the collaboration of volunteers, duly qualified, and these cannot be considered for the purposes of the provisions of previous numbers.

Moreover, the residential structure must have internal regulations, which define the specific rules and principles of operation and contain (MSSS, 2012, Article 14), in particular:

- Conditions, criteria and admission procedures;
- Rights and duties of the residential structure and of the resident or legal representative or relatives;
- Visiting hours;
- Criteria for determining family contributions, when applicable.

A copy of the internal regulations is delivered to the resident, family member or legal representative at the time of signing the contract for the provision of services. Any change to the internal regulation must be communicated to the Institute of Social Security (ISS, I.P.)

Deployment conditions (MSSS, 2012, Article 15) state that the residential structure must be inserted in the community, preferably in a place served by public transport and have easy access to people and vehicles, as well as when implementing the residential structure, the following must be taken into account:

- Proximity to other social and health support establishments recreational and cultural;
- The cohesion of the building in the urban fabric and surroundings, in order to favour integration, communicability and relations of proximity and neighbourhood;
- Proximity to urban parks, public gardens and other natural spaces capable of providing a walk and social coexistence.
- The building must be located in an area of good health and away from structures or infrastructures that cause noise, vibrations, smells, smoke and other pollutants, considered dangerous to public health and that disturb or may interfere with the everyday life of residents.

The residential structure should preferably operate in an autonomous building or in an autonomous building complex (MSSS, 2012, Article 16). The design of the building or group of buildings must comply with spatial parameters, namely of a physical and cognitive scope, conducive to the well-being of residents, to the ease of carrying out the tasks of service providers and, still:

- Allow flexibility with a view to spatial adaptations or technological improvements, by introducing materials and equipment appropriate to the respective needs;
- Introduce construction systems that allow easy maintenance of the building;
- Enhance efficiency in energy and environmental management, promoting sustainability the built system and the environment.

The building must have easy access via the public road, whether by road or pedestrian, duly identified and legible (MSSS, 2012, Article 17). The building must provide parking spaces for vehicles, in a number adequate to the capacity of the residential structure, in accordance with the municipal regulations in force. In the absence of municipal regulations, it is mandatory to provide at least one place that serves ambulances, loading and unloading. In the building where the residential structure is installed, it is mandatory to provide for:

- Main access for residents, employees and visitors;
- Service access intended for service areas and vehicle access to loading and unloading and garbage collection.

Table 4. LTCFs' norms regarding physical and social density, space, and amenities.

Functional area	Size (minimum usable area)
Reception	9m2
Management, technical and administrative services	- Management offices: 10m2 with 2m2 of work station per office: Technical office(s) and Administrative office(s); - Meeting room: 10m2 (when the capacity is equal to or greater than 40 residents); - Sanitary installation: 3m2.
Facilities for staff	- Staff room: 10m2; - Sanitary installation: 3,5m2; - Dressing room/rest area: 6m2.

Conviviality and activities	- Living/activities rooms: 15m2 with 2m2 per resident, for simultaneous use by at least 80% of residents; - Sanitary facilities separated by sex: A cabin with a toilet and a washbasin for every 10 residents, and at least one of them accessible to people with conditioned mobility with 4,84m2.
Meals	- Dining room: 20m2 with 2m2 per resident, for simultaneous use by at least 80% of residents; - Sanitary facilities: same as above; - If the dining room is common to the activities/living room: 30m2.
Accommodation	Housing typology (max of 4 residents): - Single rooms: 10m2; - Double rooms: 16m2; - Living room/area with scullery/kitchenette: 10m2; - Sanitary installation, with built-in shower: 4,5m2; Room typology (same as above, except): - Single rooms: 10m2; - Single room for couple: 12m2; - Double rooms: 16m2 with 6m2 per bed space and distance between them of at least 0,9m; - Triple rooms: 20,5m2 with 7m2 per articulated-bed space; - Own sanitary facilities (serving a maximum of four residents), with private access or located close to the rooms: 4,5m2; - Living room with scullery, for each group of rooms: 12m2 At least 20% of rooms must correspond to single rooms and a maximum of 20% to triple rooms. - Geriatric bath: 10m2 (when the capacity of the residential structure is greater than 20 residents) - A removable system must be provided between beds to guarantee the privacy of residents. - Beds should preferably be articulated, taking into account situations of residents with a high degree of dependency.
Kitchen	Kitchen: 10m2; - Main space organized into three zones: zone for cleaning food handlers; food preparation area, and cooking area; - Complementary space integrated into the main space or with direct communication with it, organized in two other areas: dishwashing and kitchen utensils area (also called dirty scullery), and food distribution area (also called clean scullery); - Pantry, cold compartment, and compartment of trash.
Laundry	12m2 - Deposit for receiving dirty clothes; - Washing and drying machines; - Storage, cupboards and shelves to store washed clothes; - Sewing table and bench for ironing clothes.
Nursing services	- Nursing office, with washbasin and table: 12m2; - Sanitary installation attached to the nursing office: 3,5m2
Support services	- General storage room; - Storage room for groceries; - Storage room of equipment and environmental hygiene products.

The functioning of the residential structure is subject to monitoring, evaluation and supervision by the competent services of the Social Security Institute (MSSS, 2012, Article 19). In the Residential Structure for the Elderly, the monthly family contribution is determined by applying a percentage to the per capita income of the household, ranging from 75% to 90%, according to the degree of dependence of the user. When, at the time of admission, the user is not receiving the supplement for dependence on the 1st degree, but its attribution has already been requested, the institution may decide to apply the maximum percentage (90%). When there is no place for the attribution of the complement due to 1st degree dependency, the percentage must be adjusted accordingly. The family contribution can be added to the contribution of descendants or other family members. For the purpose of determining this co-payment, the economic capacity of each household must be taken into account, with the calculated value being agreed between the interested parties, by signing a written agreement and issuing the respective receipt individually.

Portuguese health authorities (e.g., National Health Directorate) stopped reporting epidemiological data for the elderly age group from May onwards and has never publicly shared epidemiological data regarding elderly living in LTCF.

Table 5. Epidemiological data on elderly (aged above 60) at a national and target site level per pandemic timeframes.

	March 2020		April 2020		May 2020	
	Elderly	Portugal	Elderly	Portugal	Elderly	Portugal
Reported Deaths	178 (95%)	187	820 (84%)	966	417 (30%)	1360
Reported Cases	2901 (35%)	8251	6233 (37%)	17100	1604 (22%)	7349
Vaccines Administered	UN	UN	UN	UN	UN	UN
Reported Testing	UN	UN	UN	UN	UN	UN
Note. UN = Missing data is currently unknown and will be collected with interview/survey to Social Security body.						

Several guidelines were developed by the government, from input of international organizations (e.g., WHO), DGS, the National School of Public Health (ENSP), independent field experts, et cetera. These were communicated mainly through news channels on press conferences with policy makers. There were many cases of outbreaks throughout the pandemic, namely at elderly LTCFs and low socio-economic status neighborhoods, which had a great impact on ICU bed provisions. Measures are typically declared for the entire continental national territory and are to be adopted by every region, namely the usage of masks, hand disinfection, physical distancing.

Moreover, since there has been a strong national concern for elderly living in long term care facilities governmental and public health measures implemented to prevent and reduce the number of deaths of elderly people in LTCFs focused mainly on the suspension of visits, social distancing requirements and hygiene measures. These had enormous secondary impacts on elderly people living in these units, including increased isolation and feelings of loneliness, lack of emotional support, and reduced motivation (Eghtesadi, 2020; Fallon et al., 2020). In order to minimize such impacts, some LTCF (those with more resources) put in place some measures on their own terms, such as telephone and video web based visits, so that residents could still see and talk with their families, or even development of physical measures to allow physical proximity with safety, for instance place translucent acrylic barriers from ground to ceiling. There are also additional measures personalized for specific facilities according

to the available resources (e.g., the release of specific norms focusing on professionals' behavior; ventilation of indoor spaces; admissions; going out the institution).

When the state of emergency was declared in 2020, quarantine was established for the entire country. When a state of calamity was decreed for the first time and as it has been decreed again as off the 1st of December 2021, measures regarding LTCF include: a) mandatory negative test and the presentation of a Covid Digital Certificate (the vaccination certificate alone is not enough); b) regular screenings of users and professionals; c) mandatory use of surgical masks by all professionals in these structures; d) carrying out of tests to all residents if a positive case is detected in any contact; e) provision of municipal or other equipment, in case it is necessary to accommodate people in prophylactic isolation (or in a situation of confirmed infection of the COVID-19 disease that, in view of the clinical evaluation, does not determine the need for hospitalization); f) clinical follow-up of COVID-19 patients whose clinical situation does not require hospital admission by health professionals from the health centre groups in the respective intervention area, in conjunction with the hospital in the reference area; and g) maintenance of follow-up by multidisciplinary teams (DGS, 2021).

Évora's city council also released a set of informative documents to help the population better cope with the public health demands, while complying with the norms implemented, such as: Tips for Dealing with Social Isolation (e.g., shopping; food; telecommuting with children at home; stress, depression, and anxiety management; domestic violence; etc.) (CM-Évora, 2021).

Other initiatives were also developed in partnership with civil society, for instance, on the 6th of April 2020 the Government launched the program *Cuida de Todos*, promoted by *Cooperativa António Sérgio para a Economia Social* (CASES), whose aim was to gather volunteers for elderly LTCF (Cabrita-Mendes, 2020). Four days later, Portugal's President informed that over 3,000 volunteers had already registered (Carvalho, 2020; Mamede, Pereira, & Simões, 2020).

COVID-19 Testing

In March 2020, testing in elderly LTCF had begun. The Governmental program of COVID-19 testing across nursing homes staff started in April 2020 due to a partnership established by the government with scientific institutions and municipalities (República Portuguesa, 2021). By April 2020, 15,000 workers had been tested (Carvalho, 2020). The preventive testing campaign in Baixo Alentejo elderly LTCFs started on the 26th of April (CIMBAL, 2020). A big testing campaign was carried out in Alentejo region from June to July 2020 (Fernandes et al., 2021).

On April 2020, the Program Heroes of Tests was launched on nursing homes and a year later, the Minister of Labour, Solidarity and Social Security stated that it prevented nearly 900 LTCF outbreaks and informed that over 294,000 tests had been already performed to workers of elderly nursing homes (Observador, 2021). Moreover, at that time, 21 protocols were signed that allowed to carry out diagnostic tests to Covid-19 LTCF until the end of June 2021, with testing of 25% of workers per week also foreseen. During the third wave LTCF started being tested every two weeks (Guedes, 2021).

Moreover, regarding elderly LTCF in Alentejo, Brito Fernandes and colleagues (2021) developed a specific survey in Algarve and Alentejo Regions in Portugal to analyse the preparedness of elderly LTCF in the regions of Alentejo and Algarve in Portugal, using an international scale. Participants sample included 99 licensed nursing homes in Alentejo and 88% of those facilities returned the surveys. The most promising practices identified were: 1) continuous revision of the contingency plan to reflect any

updates to the guidelines set forth by the Directorate-General of Health and other relevant competent authorities; 2) emergency protocol with the nearest primary health care centres for a quick response in case of an outbreak; 3) systematically maintaining an inventory of PPE in close collaboration with governmental authorities; and 4) using social media and other platforms to update families and carers on residents' well-being, and on the public health measures that the nursing home is developing.

COVID-19 Vaccination

On February 2021, Évora started its vaccination process to people aged 80 and over and over 50 with associated diseases, initially covering 1,800 of the 9,000 users identified in the county (SNS, 2021). The place where the vaccination was installed (Arena d'Évora) had four vaccination posts and the capacity to vaccinate 600 people a day. The Regional Health Administration (ARS) of Alentejo pointed out the difficulties in contacting people to be vaccinated and appealed to those who have vaccination criteria to update the data through the COVID-19 portal (a website where people could schedule their vaccination appointment) (SNS, 2021).

On the 17th of February 2021 registers showed that over 170,000 elderly and staff had already been vaccinated (DGS, 2021). On the 14th of September, all Portuguese elderly people were already vaccinated and 80% of the population was fully vaccinated. By September 2021, Portugal had the highest COVID-19 vaccination rate in the world. On October 2020, the government communicated the National Vaccination Plan to the population. Elderly residents in nursing homes and LTCF were prioritized to receive the vaccine first. In homes and similar structures, primary care professionals travelled to institutions and vaccinated *in loco*, workers and residents, eventually with support from local resources. The vaccination process on LTCF per se started on January 2021 (DGS, 2021).

See Appendix A1 for the complete SES framework, timeline, and location of FS's case study (Portugal).

3.2 UANTWERPEN: Belgium

3.2.1 Overview & Timeline

This case study will explore COVID-19 pandemic impact and response in the domain of mental health-related care and services, focusing on the experiences of migrant communities in Borgerhout, Antwerp. The case study will engage with members of migrant communities themselves, as well as with local (mental) health professionals, local-level government and decision makers, and representatives from community-level initiatives and services. There will be a special focus on community initiatives and promising practices that were implemented by and for the case study population. The case study findings should be informative to guide future policy on crisis responses in Borgerhout, as well as in similar communities and neighbourhoods. We will use a definition of mental health in a broad sense that encompasses different cultural interpretations of mental (and physical) health.

Research questions:

- How has the COVID-19 pandemic impacted migrant community members' mental health and need for mental health-related care and services?
- How has the COVID-19 pandemic impacted migrant community members' access to mental health-related care and services?

- How has the impact of the COVID-19 pandemic changed over time?
- How have migrant community members experienced COVID-19 related disruptions and/or postponement of mental health-related care and services?
- How have local/community-level responses played a role in meeting demands for mental health-related care and services?

We are interested in exploring mental health impact of the pandemic as a whole, but we would also like to provide insight into how this impact has changed over time. Therefore, in our interviews we will encourage respondents to distinguish between different phases:

- First phase/immediate impact (first lockdown spring 2020)
- Second phase (summer 2020-spring 2021)
- Roll-out vaccines and boosters (2021)
- The present (spring 2022)

3.2.2 Characterization of vulnerable target populations

The population that is the primary focus of this case study are members of migrant communities in Borgerhout. We distinguish between four different sub-categories of members of migrant communities: recently arrived migrants (<5 years); migrants that arrived in Belgium more than 5 years ago; people with a migrant background that were born in Belgium; representatives of migrant communities (e.g. elected leaders of community organizations, informal community leaders, religious leaders). In addition to our target population, we will engage with three additional groups of participants, linked to work packages 4, 5 and 6:

- WP4 link: representatives from local-level government and decision makers (Stad Antwerpen)
- WP5 link: professionals working in (mental) health services: GPs, psychologists, psychiatrists, councillors, etc.
- WP6 link: representatives from community-level initiatives and services (e.g. Coronababbels, Atlas vzw, De Borgerhoutse hulpline).

Members of migrant communities in Borgerhout could be classified as socially vulnerable, based on indicators such as income levels, employment status, educational levels, language barriers, and experiences of discrimination. In other words, they might be disadvantaged as a result of intersecting structural inequalities, which were already present prior to the pandemic. Some axes of disadvantage became particularly relevant in the pandemic context. For example, women of colour and women with fewer years of education are overrepresented in the most precarious 'frontline' healthcare and homecare jobs in Belgium (Furia, 2020), which means they have been more likely to be exposed to the virus. Pre-existing inequalities also have an impact on how people experience the restrictive measures taken to prevent the spread of COVID-19. Employees with temporary contracts or people doing undeclared work (e.g. cleaning) face significant financial consequences (Geldof, 2020). Indeed, despite Belgium's relatively strong social security system, it seems likely that the lockdown measures have led to increased poverty and inequality.

Our case study setting is the Antwerp district of Borgerhout. Antwerp is the capital of the Antwerp province, located in Dutch-speaking Flanders. In 2020, the city of Antwerp had a little over half a million (530,000) inhabitants, of which around 46,000 live in the Borgerhout district. Antwerp's residents have diverse backgrounds: in 2021, 47% had two Belgian parents, 30.7% are Belgians with a migration background (Belgians who used to have another nationality or who have a non-Belgian parent), and

22.3% were foreigners (no Belgian nationality). This diversity is even more pronounced in Borgerhout: in 2022 only 37% of Borgerhout residents have two Belgian parents, while 39% have a migration background and 23.9% are foreigners (Stad in Cijfers, 2022).

3.2.3 Characterization of identified systems

The governmental structure in Belgium is relatively complex, which is also reflected in the way the health system is governed. Belgian governance can be considered at 1) the federal level, 2) the level of the communities, and 3) the level of the regions. Both the communities and regions are referred to as 'federated entities' (Gerkens & Merkur, 2010).

The federal government is responsible for the regulation and financing of the compulsory health insurance, as well as the creation of the normative framework and programmes for the hospitals (European Commission, 2019). The federal government is also in charge of registration and price control of pharmaceuticals, and the legislation covering professional qualifications (Vandijck & Annemans, 2009).

Although the Federal Public Service (FPS) for health, food chain safety and environment manages the Belgian health system, the Flemish, French and German-speaking communities each have their own community Ministries of Health (Hanover Comms, 2020). The governments of the regions, meanwhile, are responsible for maternity and child health services, health promotion, some aspects of elderly care, and hospital accreditation standards (Vandijck & Annemans, 2009). Interministerial conferences are organized on a regular basis to facilitate cooperation between the federal authorities and the federated entities (Gerkens & Merkur, 2010).

The levels of governance that are closest to the individual are the provincial and municipal authorities. These are elected through provincial elections (for the provincial council) and municipal elections (for the municipal council) that are organised every 5 years by the Flemish government. The Antwerp commune governing the City of Antwerp has quite extensive powers, ranging from road-building, construction of public facilities, and managing the police force. The Public Centre for Social Assistance also operates at the communal level to provide social services (Belgium.be, 2022).

It is not straightforward to assess the general strength of representation of our target community within governance. However, there are some insights into the representation of people with a migrant background in commune governance. In 2018, 25.5% of elected candidates in the Antwerp local council had a migration background (Van Trappen & Wauters, 2018). This seems quite high, but it does indicate that people of a migration background were underrepresented, considering that 39.6% of Antwerp residents had a migration background in 2018.

Unfortunately, there is no available data on how our study population perceived different elements of governmental pandemic responses. Our ongoing and planned COVINFORM research in Borgerhout will hopefully shed more light on this.

It is possible that rates among migrant populations in Borgerhout differ from the rates presented above. However, it is hard to be sure of this. We do know that there are significant inequalities in overall and excess mortality during the COVID-19 crisis in Belgium in specific migrant communities. This has been found to be particularly the case for Sub-Saharan African men, and male elderly migrant groups (Vanthomme et al., 2021).

The incomes of Borgerhout residents are relatively low compared to the rest of Antwerp. In 2018, the median taxable income was €16,731 in Borgerhout, compared to €18,298 in the City of Antwerp. This wealth difference is also reflected in other indicators, such as the percentage of people eligible for 'increased compensation' (*Verhoogde Tegemoetkoming*) for the reimbursement of medical costs. In Borgerhout, 37.9% of residents received the Verhoogde Tegemoetkoming in 2018, compared to 29.3% in the City of Antwerp (Stad in Cijfers, 2022).

A questionnaire from the Flemish government in early 2021 revealed that most people (79%) felt their general health status has remained about the same compared to prior to the COVID-19 crisis, whereas 16% indicated their health status deteriorated, and 3% indicated it had improved (Statistiek Vlaanderen, 2021).

The COVID-19 pandemic also impacted people's access to health services. Based on Sciensano's COVID-19 health surveys, it seems that particularly during the first wave, lockdown measures and fear of the virus reduced contacts with healthcare professionals for problems not linked to COVID-19. During the first lockdown, the percentage of people with a cancelled or postponed medical appointment ranged between 90% for rehabilitation appointments and 25% for GP appointments. The second lockdown had a lower impact on access to care due to efforts made to keep healthcare accessible to everybody. The percentage of people with a cancelled or postponed medical appointment ranged between 30% for medical-technical treatment appointments and 4% for GP appointments (Healthy Belgium, 2022).

The measures also had an impact on access to home care. During the first lockdown, 49% of the people saw their elderly care assistance stopped and 15% saw it reduced. For 28 % of people, the assistance of a home nurse stopped, and for 15% of people it reduced. During the second lockdown, fewer people reported a cessation in the assistance they usually receive (elderly care assistance stopped for 9% of people and home nurse assistance for 11%), but more people reported a reduction in the assistance (32% and 16% of people respectively for elderly care assistance and home nurse).

Data from the City of Antwerp show that Antwerp residents reported experiencing more stress, anxiety and loneliness during the first 5 months of the pandemic compared to pre-pandemic times. The largest increase in depressive symptoms and feelings of loneliness were observed among young people (age 16-24), especially young women. Depressive symptoms were also found to be more common among unemployed people and people who belong to a medical risk group for COVID-19. People living alone or with a limited social network reported feeling isolated without their regular meeting places and/or interactions with their religious communities. Mental wellbeing was also negatively impacted by fear of being infected with COVID-19, stress about the uncertain future, as well as fear of being fined for non-compliance with COVID-19 rules, especially among groups of Antwerp residents who could not afford to pay these fines (Stad Antwerpen, 2021).

Belgium's Superior Health Council (*Hoge Gezondheidsraad*, HGR) noted in July 2021 that there is a mismatch between the increased need for mental health care and the availability of services. Increased care needs have not translated into increased care use, which according to the Council indicates an increased 'unmet need' for mental healthcare among the Belgian population (Hoge Gezondheidsraad, 2021).

COVID-19 Testing

Testing capacity remained low in Belgium in the first phase of the pandemic. However, testing was given a substantial boost on April 21st 2020, when the Belgium government decided anyone with flu-

like symptoms would be allowed a take a COVID-19 test. In subsequent months, testing was scaled up, although in peak periods capacity was not always sufficient to meet demand. In Belgium, PCR testing is free when you have symptoms or are a contact person of someone who is COVID-positive.

Over the course of 2021, self-tests became increasingly common. To make regular use of self-tests accessible to people with limited financial means, since January 2022 the Belgian government subsidises the sale cheap (1 euro) self-tests to low-income individuals and families (Eerstelijnszone, 2022).

COVID-19 Vaccination

Vaccination and booster campaigns were rolled out in Belgium over the course of 2021. Vaccines are free and have been predominantly administered in large-scale vaccination centres. In order to reach specific populations, targeted vaccination strategies have included vaccination by GPs and mobile vaccination teams. Figure 8 shows COVID-19 vaccination trends in Belgium over time. The trend in the province of Antwerp shows a similar trend (Figure 9). In mid-February 2022, the total COVID-19 vaccination coverage in Flanders was 83%, with 93% of the adult (18+) population. This is significantly higher than in Wallonia (73% total coverage and 84% 18+ coverage) and Brussels (61% total coverage and 73% 18+ coverage).

Unfortunately, there is no publicly available data which presents the vaccination data disaggregated by neighbourhood/district. However, there is some anecdotal evidence that vaccination coverage may be lower among specific migrant groups (e.g. observations by local GPs and community workers). It should also be noted that because Borgerhout is a relatively young neighbourhood (high youth density), vaccination coverage is expected to be lower than in other parts of the city.

The lockdown measures also have a particular impact on people's ability to take part in cultural activities and/or practice their religion. For example, the Ramadan period and festivities during both the spring of 2020 and 2021 were significantly impacted by the pandemic measures. More generally, the outbreak control measures have presented unique challenges related to the to the remote organization of religious life. In Borgerhout, the large art and concert centre 'De Roma' has been closed repeatedly as a result of the pandemic measures, and many smaller cultural venues have suffered the same fate.

Families with school-age children have had many problems related to online education. The main challenges reported by parents in Antwerp included not having enough computers/digital devices for each child, not having a (sufficient) internet connection, and difficulties in helping their child(ren) with school assignments (e.g. because of language barriers, limited schooling, or lack of experience with the Flemish school system). Despite efforts to address these challenges, including the City of Antwerp's programme to donate laptops to families with children, the COVID-19 crisis widened the education gap (Stad Antwerpen, 2021).

A lot of local socio-cultural organizations, religious institutions and key community figures launched initiatives to promote the COVID-19 measures, often through translating and disseminating the 'official' information. The Antwerp urban organization for integration and civic integration Atlas created audio messages and videos in a range of different languages, as well as in 'simple Dutch', which were disseminated further by individuals and other organizations in their network (Atlas, 2020). Mosques, churches and cultural organizations played a key role in connecting with their communities, hereby combating the spread of misleading information and "fake news". The pre-existing strong sense

of community in many ethnic minority groups, such as in Sub-Saharan African communities, was helpful to promote trust in messages communicated by key community figures (Stad Antwerpen, 2021).

Many organizations also provided a wide range of supportive services and solidarity initiatives to help community members to deal with the COVID-19 crisis. For example, community solidarity initiatives included food distribution, help with filling in documents (e.g. to apply for government assistance), telephone help lines (e.g. *De Borgerhoutse hulpline* and *Antwerp Helpt*) and online support meetings. In Borgerhout, the mosques in particular set up a range of solidarity initiatives, including food distributions. The joint website 'community work Antwerp' (*buurtwerkantwerpen.be*) provided a central information channel for community initiatives and helped people to connect with relevant services. Indeed, the COVID-19 crisis accelerated the cooperation process between community organizations in Antwerp (Stad Antwerpen, 2021).

An example of an initiative relying on active citizen involvement in COVID-19 communication strategies to promote trust and counter the spread of misinformation was the use of 'Sensi Ambassadors' in the City of Antwerp. A diverse group of ambassadors — typically people with a broad network in their neighbourhood, religious community or migrant community — were recruited by the City of Antwerp to receive training about COVID-19, distribute multilingual communication materials, and act as a trusted source of information for their network (City of Antwerp, 2020). The program has been phased out gradually in spring 2021, but the experiences with the Sensi Ambassadors were very positive.

In late March 2020, the City of Antwerp launched a platform called 'Antwerp helps' (*Antwerpen helpt*) to promote the large number of volunteer initiatives that were blossoming across the city. These included initiatives to help out residents with practical things such as getting groceries, going to the pharmacy and taking out their dog. Residents in need of help can sign up through an online form or using a free telephone number, and Antwerp residents who are willing to help can register as volunteers (Van Berendoncks, 2020).

Already prior to the COVID-19 crisis, the social prescribing tool 'Zipster' was used by Antwerp-based general practitioners (GPs) to facilitate referrals to local social services when GPs detect psychosocial needs. At the request of the City of Antwerp, during the pandemic Zipster has been expanded with an extra functionality to support referral to 'COVID Coaches'. These local COVID coaches provide infected Antwerp residents with information about the guidelines and support Antwerp residents in completing their quarantine. If necessary, the coaches can refer them to organizations that can support, e.g. to Antwerpen helpt if people need help with their groceries (Coolbrandt, 2021).

An initiative set up by the City of Antwerp to address the psychological impact of the crisis is 'Corona chats' (*Coronababbels*). A total of seven community organizations in the city are involved in organizing activities tailored to their target audience: two aimed at young people, two aimed at sex workers, one aimed at newly arrived migrants, one at people with a migration background, and one at people living in poverty. These projects were set up to provide psychosocial support, strengthen people's social networks, engage in dialogue about these groups' concerns, and provide feedback signals to policymakers. Participants of Coronababbels who need additional support are referred on to specialised psychological or psychiatric care (Stad Antwerpen, 2021).

The Antwerp-based organization 'The Human Link' received funding from the City of Antwerp to support health care workers (HCWs) who work(ed) on the 'frontlines' of the COVID-19 crisis. The

program includes individual and group coaching, courses, and workshops, aimed at addressing the additional pressure, stress, fear and frustrations HCWs have experienced (Stad Antwerpen, 2021).

Among the community initiatives in Borgerhout were several aimed at providing families in financial difficulties with affordable or free food/meals. For example, the sociocultural meeting house *'t Werkhuys* turned their cafe into a neighborhood restaurant where people can enjoy a full take-away meal for three euros, as staff at the meeting house noticed a lot of people were struggling financially as a result of the COVID-19 crisis (Acke, 2021). Another community-initiated food distribution service in Borgerhout was organized by the non-profit organization (VSW) Fardows.

At the end of 2020, the Borgerhout district council presented its long-term planning and announced that extra budget would be allocated to solidarity initiatives with residents who were hit hardest by the COVID-19 crisis. There will also be a focus on accelerating the 'greening' of the neighbourhood to promote pleasant and safe public spaces, as the COVID-19 crisis demonstrated the shortage of such spaces in the neighbourhood (Van Wynsberghe, 2020).

See Appendix A2 for the complete SES framework, timeline, and location of UANTWERPEN's case study (Belgium).

3.3 URJC & SAMUR: Spain

3.3.1 Overview & Timeline

Our case study focuses on the extent to which migrant communities may have different experiences regarding access to welfare state provision during the COVID-19 pandemic. More precisely, we intend to focus on social services and how they tended to support migrants in a vulnerable situation. We intend to study a system of relations and behaviours that covers, both individual citizens of migrant origin and the institutions (broadly understood) with whom they have interacted to gather a comprehensive view of the successful and unsuccessful practices. Within this framework, our case study intends to examine the extent to which social services and third sector organizations were able to respond to this crisis and provide support for migrants from Latin American and African origin, whose livelihoods were compromised overnight. Our case study is ambitious insofar as it tries to understand the bottom-up and top-down dynamics that take place in the system under study and the extent to which differences within migrants may have led to different lived experiences. In summary, to understand the vulnerabilities faced by migrant households in Madrid, looking only at health care dimensions would offer an incomplete picture. The members of these units are, on average, younger than the general population. For them, the worst consequences of the pandemic came from the combination of high-risk occupations that they hold and the sudden economic halt. Our research intends to examine the extent to which all the efforts that the system put in place contributed to bridge the crisis and whether they were able to adapt to the specific needs of a group with interacting sources of inequality in a way that satisfied the recipients of those efforts.

Our timeline will focus on what happened between 2020 and 2021. Looking at the development of the pandemic in Spain, our expectation is that the largest adjustments were made during the first months of 2020, during the harsh lockdowns. Namely we consider two periods:

- Initial lockdown: between March 2020 and June 2021.

- "New normality": within this period, we could identify a pre-vaccine period (July-December 2020) and another period once vaccine campaigns were rolled out (January 2021-onwards). Our overall expectation is that the vaccines did not make such a huge difference in terms of social services.

3.3.2 Characterization of vulnerable target populations

Migrant communities as such is a very broad term that does not acknowledge the different migration trajectories and experiences of assimilation of the groups involved (Haller et al., 2011; Portes, 2010). For instance, migrants coming from Latin American countries may face discrimination because of their appearance and ethnicity, but they are not challenged to learn the language because Spanish is their mother tongue. In contrast, migrants coming from the African continent may be burdened with both, having to learn the language and their external appearance. Our research will focus on the lived experiences of migrants of Latin American and African origin given that they make the two most represented communities in Madrid (INE 2021a). Given that data on how the different migrant communities are territorially distributed is unavailable, our research will not be strong on the territorial perspective besides circumscribing the case study to the city of Madrid. Citizen interviews will concentrate on the districts with the highest proportions of migrant population, namely Centro, Carabanchel, Usera, Puente de Vallecas and Villaverde. In our fieldwork we will not be including migrant communities coming from Eastern European countries. Even if they must learn a language that is significantly different from their mother tongue, many of their countries of origin are EU member States, which eases their relationship with Spanish institutions. In this version of the document, we will not separate our expectations in terms of these two groups because we are still unsure of what their lived experiences may entail. However, future deliverables that include results from the field work will.

Returning to migrants, our target population will be migrants who have been living in the city for some time (ideally, at least five years, although the final timeline will strongly depend on access to population). This will allow us to study how the pandemic has affected these communities, focusing not on those that are challenged by just having arrived in a new country, but on those that are already aware of how it works and the resources available when they find themselves in difficulties. Moreover, this also provides a further robustness check so that pre-crisis living conditions are comparable to within-crisis ones. Our target population is, on average, younger than the general population. Thus, focusing only on access to health services would not provide a comprehensive image of their situation. Many of these citizens may have suffered mild versions of the illness, and the real factors that have affected them and worsened their living conditions are of a socioeconomic nature. The impact of the health crisis is, thus, indirect. For these citizens, difficulties have to do with a sudden diminishment of their household income, with difficulties to adapt to a changing labour market, difficulties to provide their children with the necessary equipment to follow online classes or to care for them when they are confined at home during working periods, amongst other situations.

They can be considered socially vulnerable insofar as their occupational profiles have a higher risk of exposure to contagion, as will be discussed in the following section. Most migrants are employed in the service sector, either in care-related occupations like workers in retirement homes or in customer-oriented ones, such as cashiers in supermarkets. Migrants are more likely to be employed in sectors where working conditions are often in the verges of the formal economy. As well as in care and customer-oriented services, there are a significant number of workers from migrant communities are

employed in construction or hospitality and the care sectors. These sectors have been marked by high levels of informality in hiring practices. With the economic downturn, workers had to face both the loss of income due to the economic downturn, and a lack of access to the protection mechanisms put in place to fare through this period, and transition to other forms of employment. Moreover, migrant communities are more likely to live in neighbourhoods with higher population densities. This implies that they have a high individual likelihood, and they live in households where this likelihood multiplies because many high-risk individuals share a fairly small space. Besides difficulties linked to their socioeconomic vulnerability, they could be encountering difficulties linked to racist attitudes, even if they are low-intensity forms of racism or microaggressions.

By July1st 2021, according to national statistics, Spain has a population of 47,326,687 inhabitants, out of whom 23,188,901 are men and 24,137,787, women (INE, 2021b). There are a total of 5.325.907 migrants, according to the same source. The population of Spain fell by 72,007 persons during the first half of the year to 47,326,687 inhabitants. This decrease was due to a negative vegetative balance of 70,736 persons and a practically null migratory balance. The number of migrants fell by 42,364 persons during the first half of the year to a total of 5,325,907 as of 1 July 2021. This decrease was entirely due to the acquisition of Spanish nationality (affecting 68,282 persons), as both the natural increase balance (17,739 persons) and the foreign migratory balance (8,376 persons) were positive.

3.3.3 Characterization of identified systems

Even if the COVID-19 pandemic has posed some challenges to the collection of demographic data, the local government has persevered in their effort of providing updated data. Table 6 shows the distribution of the population according to its country of origin. According to the latest consolidated measurements there are a total of 3,304,343 inhabitants of which 2,973,204 are Spanish people and 511,067 (15.47 %) are migrants. Table 6 also shows that there has been a negative growth of the population, both amongst Spanish nationals and those of foreign origin, who also experience a slightly larger decrease.

Table 6. Population by country of origin (Spaniards and foreigners).

Country of origin	Inhabitants			Increase		
	01/07/2021	01/07/2020	2020 Absolute	Percent	2021 Absolute	Percent
Total	3,304,343	3,341,273	-36,930	-1.12	32,805	0.98
Spain	2,793,204	2,822,508	-29,304	-1.05	-2,617	-0.09
Other country	511,067	518,679	-7,612	-1.49	35,427	6.83
% of immigrants	15.47	15.52	-0.06	-0.37	0.92	5.91
Source: Case leads elaboration from Ayuntamiento de Madrid (2021c).						

Turning to the country of origin of migrants, Table 7 broadly describes the distribution of migrants according to their geo-economic area of origin. The most represented region is Latin America and Caribbean, which represent roughly 52% of the migrants living in Madrid. The following groups are far less numerous and include migrants coming from European (roughly 20%) and Asian countries (around 15%). Going into the detail, data available from July 2021 (Ayuntamiento de Madrid, 2021b and 2021c) show that the most abundant groups, in order, are Romanians (1.28% of the total population), Venezuelans (1.23%), Chinese (1.15%), Colombians (1.02%), Italians (0.88%), Peruvians (0.83%),

Hondurans (0.76%), Ecuadorians (0.67%), Moroccans (0.67%), Paraguayans (0.58%), and Dominicans (0.5%). There are over 57 more nationalities present but their nationals represent less than 0.5% of the total population of the city.

Table 7. Population by geo-economic area of origin. 2021 and 2020.

Geo-economic area of origin	Inhabitants			Increase		
	01/07/2021	01/07/2020	2020 Absolute	%	2021 Absolute	%
European Union (14)	66,605	61,926	4,679	7.56	-1,978	-3.19
European union (27)	57,805	58,076	-271	-0.47	-1,497	-2.58
Rest of OECD countries (UK; USA, Japan, Mexico)	26,034	25,939	95	0.37	8,298	31.99
Latin America and Caribbean	239,407	248,971	-9,564	-3.48	27,979	11.24
Africa	36,460	37,093	-633	-1.71	878	2.37
Asia	69,077	70,282	-1,205	-1.71	1,536	2.19
Source: Case leads elaboration from Ayuntamiento de Madrid (2021b, 2021c).						

Table 8 shows the proportion of migrants and national within each district. Information available cannot be further disaggregated by nationality, which seems to challenge the purposes of the research that we intent to carry out in this project. Early results from the interviews conducted with members of the local government have shed a light regarding the lack of availability of detailed data in local open-access resources. What they mentioned is that they do use detailed data to inspire the design and implementation of local policies. However, given that social services are universally available, they have sequestered access to detailed information about citizens' country of origin to avoid xenophobic backlash and attacks on vulnerable communities. This decision is driven by an inflexible mandate that must guide their action as public officials: they shall serve everyone in need, regardless of nationality, age, or gender. The only requirement they impose is to be registered in the city's registry, something that migrants are encouraged to do on arrival, even if they do so without respecting the law. Registration procedures were made even more flexible during the pandemic to facilitate access to such services, to maximize coverage and reach everyone in a vulnerable situation.

According to the official data available in the city hall's website (Ayuntamiento de Madrid, 2021b), specifically on its transparency portal, the five districts where more migrants are present are Centre (roughly 26% out of the total population of migrants in Madrid), Usera (around 24%), Villaverde and Carabanchel (around 21% each) and Puente de Vallecas (roughly 20%). Our analyses will not focus in a specific neighbourhood because there is no evidence in the literature of a strong territorial distribution of migrant communities in specific neighbourhoods or sites. Table 8 shows how, except for the city centre, the neighbourhoods with highest proportions of migrants are located in the southern districts, which are also the more densely population and with lower income per capita.

Table 8. Population by country of origin (Spaniards and foreigners) and district. 2021.

District	Nationality			%
	Total	Spain	Other countries	Migrants
City of Madrid	3,304,343	2,793,204	511,067	15.5
1.Centre	141,323	104,804	36,512	25.84
2.Arganzuela	153,851	137,646	16,195	10.53
3.Retiro	118,283	108,100	10,182	8.61
4.Salamanca	145,711	124,069	21,641	14.85
5.Chamartín	145,251	130,623	14,628	10.07
6.Tetúan	158,574	126,882	31,692	19.99
7.Chamberí	137,721	120,855	16,865	12.25
8.Fuencarral-El Pardo	247,455	225,669	21,784	8.80
9.Moncloa-Aravaca	121,032	107,509	13,552	11.17
10.Latina	238,949	197,678	41,268	17.27
11.Carabanchel	257,350	202,660	54,685	21.25
12.Usera	141,689	107,709	33,975	23.98
13.Puente de Vallecas	237,440	189,975	47,460	19.99
14.Moratalaz	93,232	83,499	9,732	10.4
15.Ciudad Lineal	215,790	182,650	33,133	15.4
16.Hortaleza	193,695	172,325	21,341	11.0
17.Villaverde	154,515	121,489	33,024	21.4
18.Villa de Vallecas	114,839	98,972	15,857	13.8
19.Vícalvaro	77,426	67,323	10,100	13.0
20.San Blas-Canillejas	160,032	137,542	22,488	14.1
21.Barajas	50,185	45,198	4,983	9.9

Source: Case leads elaboration from Ayuntamiento de Madrid (2021b).

As it was mentioned in the preceding paragraph, the neighbourhoods where migrants tend to concentrate are the most densely populated. Further evidence of this can be found in the household sizes, as shown in Table 9. The districts with a higher proportion of migrants also hold the largest households, on average. Except for the City Centre, all four districts are above average in terms of household composition. The average household composition in the Madrid is (2.55 individuals), while the average in this district is 2.82 individuals in Villaverde, 2.68 in Puente de Vallecas, 2.83 in Usera and 2.67 in Carabanchel. In fact, Usera has the highest average in the whole city. Within the theoretical framework of this project, housing typology has been defined as an axis of people's vulnerability. In a

context in which governmental regulations imposed confinement at home and self-isolation at the sight of the first symptom that could signal a COVID-19 case, this data reflects some of the challenges that these households faced. Many individuals in relatively small spaces needed to find space to self-isolate and shield the vulnerable ones, find space for the younger members of the household to do their class work, etc. More generally, particularly during the first months of pandemic, with the hard lockdown, these households struggled to provide its members with their own space so that they could stay mentally healthy.

Table 9. Number of households and average size by district. 2021.

District	Total no. of Households	Average household size (individuals residing in the dwelling)
City of Madrid	1,306,612	2.55
1.Centre	**69,504**	**2.03**
2.Arganzuela	65,479	2.36
3.Retiro	48,880	2.43
4.Salamanca	63,001	2.32
5.Chamartín	58,413	2.49
6.Tetúan	67,073	2.38
7.Chamberí	61,936	2.24
8.Fuencarral-El Pardo	91,408	2.7
9.Moncloa-Aravaca	46,361	2.61
10.Latina	95,756	2.51
11.Carabanchel	**96,871**	**2.67**
12.Usera	**50,285**	**2.83**
13.Puente de Vallecas	**89,291**	**2.68**
14.Moratalaz	37,573	2.50
15.Ciudad Lineal	87,225	2.49
16.Hortaleza	72,104	2.68
17.Villaverde	**54,821**	**2.82**
18.Villa de Vallecas	43,733	2.62
19.Vícalvaro	27,591	2.74
20.San Blas-Canillejas	60,551	2.65
21.Barajas	18,756	2.67
Source: Case leads elaboration from Ayuntamiento de Madrid (2021b).		

By January 28th, 2022, there have been a total of 690,581 COVID-19 confirmed positive cases (Ayuntamiento de Madrid, 2022), as shown in Table 10. In the public debate, concerns have been expressed about the accuracy of measurements and regular updating of the data available. However,

the data provided are the last update available in the transparency and open data portal of the local government (Autonomous Community of Madrid, 2020).

Table 10. Number of positive confirmed cases by districts as of January 25th 2022.

District	Number of cases
01. Centro	32,227
02. Arganzuela	32,320
03. Retiro	23,671
04. Salamanca	31,856
05. Chamartín	30,428
06. Tetuán	31,118
07. Chamberí	31,966
08. Fuencarral-El Pardo	45,593
09. Moncloa-Aravaca	28,289
10. Latina	47,646
11. Carabanchel	52,916
12. Usera	30,950
13. Puente de Vallecas	58,819
14. Moratalaz	19,861
15. Ciudad Lineal	44,843
16. Hortaleza	36,115
17. Villaverde	33,611
18. Villa de Vallecas	22,665
19. Vicálvaro	14,628
20. San Blas - Canillejas	31,328
21. Barajas	9,731
Total	**690,581**
Source: Case leads elaboration based on data by the Autonomous Community of Madrid (2020).	

Although data available has not collected information regarding the nationality of those who positivized, we can make assumptions based on the territorial distribution of contagion rates, combined with the data provided in Section 2.2 about the territorial distribution of the communities of interest. By districts, the impact of the COVID-19 has been unequal. Lower-income neighbourhoods have endured higher infection rates than those better off. Table 10 shows how low-income districts like Puente de Vallecas or Carabanchel have contributed more than 30,000 cases each, while better off districts such as Moncloa-Aravaca, Chamartín or Salamanca have contributed roughly around 15,000 each. Citizens of migrant origin are more present in the first neighbourhoods than in the latter.

Age has been a key variable in determining the severity of the disease, but socioeconomic status represents a significant set of predictors of the likelihood of becoming infected (some examples can be found in Aguilar-Palacio et al., 2021 or Galanis & Hanieh, 2021). Household composition, occupation, and other socio-environmental variables have been identified as significant predictors of likelihood of contagion of COVID19. Thus, neighbourhoods where citizens with a lower socioeconomic status tend to concentrate are also the ones where rates of confirmed cases are also higher.

Access to health clinics and hospitals was not limited by individuals' origin but by the saturation of services. During the first waves of the pandemic, COVID19 led to the development of severe sickness that led to the collapse of sanitary services across the country and in Madrid in particular. Elective procedures and non-essential consultations were re-scheduled either because services could not cope with more patients or prevent citizens from going into hospital where they became at severe risk of becoming infected. As COVID-19 has reduced the severity of the associated illness, hospitals have been able to recuperate their less urgent activities to a certain extent. ICU and respiratory units have found themselves highly strained when the peak of successive waves came, but not as much as in the first months of the pandemic.

In contrast to hospitals, health clinics are still struggling with the amount of work that the pandemic has caused in them. It should be underlined that the Spanish health system has been very cost-effective since its creation in the 1980s because general practitioners (GPs) acted as gatekeepers for the hospital. That is, when someone felt sick, they went to their GPs for a consultation and to get a referral for a specialist doctor at the hospital. Although delta and omicron are still causing severe forms of sickness, hospitalization rates and lengths of stay have gone down. This has been a relief for hospitals but not for health clinics. These clinics are still very much in charge of testing citizens to communicate cases, provide with the necessary paperwork for leaves and attend to those who need outpatient care. On top of this, they also need to still do all the work that they regularly did before the pandemic arrived. In other words, GPs and nurses working in these practices are overloaded and each new wave only contributes to increasing the pressure over professionals. Moreover, neighbourhoods that are worse off also experience higher pressure because GPs oversee more citizens than in better off neighbourhoods.

Regarding migrants' access to health facilities, this overload situation entails difficulties of access. These difficulties are less dire because most of them are young and do not need regular medical attention. Nonetheless, they have experienced the difficulties derived from living in these neighbourhoods where services were already crowded, and professionals already had higher workloads. The crisis has come to deepen inequalities that were in the making for some time.

Finally, mental health deserves some attention. Although most of the resources available have been devoted to building a new health facility and reinforcing medical staff in hospitals and health clinics, mental health is one of the issues that have become salient during these months. Confinements, uncertainty, the risk of transmitting the disease to vulnerable loved ones, etc., have taken a toll on citizens' health. Yet, outpatient psychological care in the public system was almost non-existent before the crisis. Citizens who required some form of therapy mostly recurred to private practices. During the crisis, these services have been further outstretched as more citizens have overwhelming levels of anxiety or develop other psychological conditions. In this regard, we expect members of migrant communities to experience higher levels of mental health deterioration because the uncertainties derived from the crisis intersect with weaker social links due to their status as migrants. This deterioration is also met with difficulties to access therapy given that public services limit their

intervention to extreme cases, and they lack the disposable income to devote it to private consultation. In terms of timing, we should find a build-up effect, further aggravated by the intersection of sources of inequality. Although this is not really part of our research interests, it should be expected that the pressure created by the lack of knowledge and valid medication regarding COVID, was later on replaced by other concerns such as how would families in their countries of origins would navigate the crisis, their own economic situation or the risk of becoming sick. The vaccination period may have lifted this burden to a certain extent because the health situation cleared up but the economic situation was still unclear.

Our overall expectation is that they should not have experienced restrictions more intensely than the general population, nonetheless they may have encountered unexpected difficulties due to their situation as minority or their religious beliefs not being as institutionalized as the Catholic faith.

While in Spain there is a large majority of citizens who identify themselves as Catholic (whatever the intensity of their practice), migrant communities have brought with them other faiths, namely Muslim and Christian evangelical. These other faiths benefit of the very protective regulations of religious regulations in Spain but, at the same time, have difficulties to access institutional actors because they are far less institutionalized than the Catholic faith. Identifying a single intermediary is often a challenging activity, which means that they have more difficulties accessing resources. During the months of lockdown, they probably turned to the internet to keep the links with the members of their congregations. Public television also offers some space to these communities, but they are rather focused on giving information about them than broadcasting services.

After the general election of 2019, the radical right political party VOX consolidated its presence as a significant actor in the Spanish political arena. Besides, in the local and regional elections that took place previously that year, their results made them the fourth and fifth force in each council. Yet, their power was reinforced as they became one of the key sources of support of the conservative PP to keep the local government. This rise of radical right parties has had consequences in the increase of aggressions to same-sex couples, but also making acceptable xenophobic speeches in the public sphere.

On the other hand, during the months of March and May 2020, walking in the streets was restricted to essential workers. Members from the security forces, including members of the army were sent to patrol the streets and make sure that everyone in the street had a justified reason to be there. This led to an increase in identifications, which are highly criticized by their strong reliance on race profiling. Furthermore, citizens started to act as what was labelled as “balcony police” (policías de balcón in the original Spanish expression). This act that could have been thought to be an expression of civic engagement, soon took a more sombre dimension. The tension of confinement seemed a trigger for some citizens who started scolding and screaming at people wandering around the street if they thought they were not entitled to do so. Since migrants are often in a vulnerable position, it is likely that they became frequent targets of these overzealous police and citizens.

Finally, there have been some public discourses regarding the pandemic that have targeted foreigners as being responsible for the virus to enter the country. Even if these speeches were rejected by public officials, they may have stalled amongst migrant communities, who attempted to anticipate possible backlashes and moved to stablish self-protection measures. For instance, Chinese citizens, even if they are outside of the sample of this case study, provide a good example. In March 2020, many Chinese citizens scared by the news that they were receiving from their family members, but also of being

targeted by attacks on their businesses, were amongst the first to close their restaurants and shops in advance of public announcements (El Mundo, 2020; El Pais, 2020b).

In the interviews with citizens and third sector practitioners we expect to gather evidence on whether this anecdotal evidence reflects a trend, or they are just isolated events. Furthermore, it could be the case that the experience of disenfranchisement takes different forms for the communities considered. For instance, the fear of contagion may have led to higher rates of dismissal for Latin American nationals, who are largely employed in the care sector, whereas migrant of African origin increased their risk of being scolded or assaulted.

In terms of vulnerability, it should also be underlined that the Great Depression led to soaring rates of inequality and many families were left in a dire situation. Migrant communities were particularly affected by this. More than ten years later, macroeconomic indicators show that the Spanish economy recovered but inequality did not decrease at the same speed. This recent past is fresh in the memories of many, so the pandemic facilitated that existing schemes of minimum-income allowance were reviewed, and the national government launched its own policy on the subject. It remains to be seen whether this has been an effective policy given that the application process is extremely complex.

The city of Madrid is a global, multicultural city, which shares characteristics with other large European cities. Bureaucratic institutions of a rational nature frame the life of the inhabitants. Individual narratives are to some extent reified in relation to the labour market, as it occupies the centre of their time. The labour market is an institution that shapes the ways in which all individuals relate to each other. Madrid society is a community which has turned leisure into its source of inspiration, so as the rest is act rationally. It is a city in which "freedom vs. communism" has been the slogan of the governing party's campaign. In that sense, all citizens are urged to make a living. Migrants find their place, mostly in the outskirts. In this sense, their relationship to other people and to their frequent spaces has been affected. The concept of migrant is often associated with the absence of stable networks in the country of origin. In this sense, the fact of being able to go out on the street to work, to be with other people, may have affected people with weak networks more.

Information regarding the socioeconomic conditions of migrants in Madrid is not available at the municipal level. Existing statistics by the National Statistics Bureau can only be disaggregated at the regional level. Nonetheless, given the large size of the city within the region, data at this level should provide a picture that roughly represents the situation in the city.

Table 11 depicts the rates of activity, employment and unemployment in the region of Madrid and the Spanish average in 2021. In terms of the rate of active population, Spanish citizens in Madrid are 61% of the regional population, well above the national average for the same ethnic group, which is at 57%. In contrast, amongst migrants, 75% of them are part of the population eligible to work, also exceeding their group’s national average. Turning to unemployment rates, Madrid’s Spanish citizens are well below unemployment rates at 9.5%. Differences are larger, and more favourable for migrant citizens living in Madrid. Their rate is around 13%, while the national average for their group is about 21%. These results, in line with what was mentioned at the beginning of the document, suggest that Madrid is concentrating active population at the expense of other regions. The same can be claimed for migrants, whose unemployment rates are higher than Spanish nationals but still well below the national average.

Table 11. Activity, employment, and unemployment rates by nationality. 2021. Percentages.

	Activity Rate			Employment rate			Unemployment rate		
	Total	*Migrants*	*Spanish*	*Total*	*Migrants*	*Spanish*	*Total*	*Migrants*	*Spanish*
Spain	58.65	69.30	57.30	65.10	60.14	65.85	13.33	20.89	12.17
Madrid	63.06	75.12	61.25	70.63	69.60	70.82	10.12	13.28	9.54

Source: Case leads elaboration from Autonomous Community of Madrid (2021).

Table 12 further explores the situation by segmenting the population according to their gender. This is relevant because in Spain, women usually endure higher unemployment rates than men, and their positions are usually more precarious. In case a company needs to lay off employees, women are more likely than men to be let go. Employment rates amongst migrant women are significantly lower than amongst men, both at the national and regional level. The employment gap is of roughly 19 percentage points at the national level and slightly lower, 14 percentage points, at the regional level. Yet, employment rates of migrant women in Madrid are 12 points higher than the national average. In other words, even if migrants are more likely to be employed in Madrid than in the rest of the country, the gender gap remains at both levels.

Table 12. Employment and unemployment rates amongst migrants by gender. 2021.

Region	Employed population	Employment rate	Unemployed population	Unemployment rate (%)
Total				
Spain	2,422.3	60.14	646.5	20.89
Madrid	475.8	69.60	73.0	13.28
Men				
Spain	1,351.5	69.76	272.4	16.63
Madrid	237.8	77.40	31.0	11.53
Women				
Spain	1,070.8	51.22	374.1	25.68
Madrid	238.0	63.22	42.0	14.95

Note: The unit of measurement in the columns with population data (employed and unemployed) is thousands of citizens, whereas the columns with rates show percentages.
Source: Case leads elaboration from Comunidad de Madrid (2021).

Still on Table 12, we explore the situation of unemployed migrants. Unemployment rates are lower in the Community of Madrid, both for men and women, compared to the rest of the country. In a similar vein, unemployment is more prevalent among women than men. In the Madrid region, almost 15%of migrant women are unemployed. This figure is somewhat lower for men, with 11 percent of male migrants being unemployed. In Spain, 25% of migrant women are unemployed, while men only represent 16%.

To better understand the socioeconomic characteristics of migrants we also provide evidence of their involvement in the different productive sectors. Spain has a highly tertiarised economy, and Madrid is a good example of this. The secondary sector is the one with the smallest contribution to the economy. Approximately 30,000 migrants work in this sector. Construction is a source of employment and

wealth, especially in the Community of Madrid. It employs 54,000 migrant workers. The service sector is undoubtedly the most important economic sector in Spain, but also in the Community of Madrid. In previous lines we spoke of a tertiarised economy, as the following table shows. In Spain it employs more than five times more migrants than the construction or industrial sectors. In the Community of Madrid there are almost 400,000 migrants employed in this sector. The service sector has been one of the sectors hardest hit by the pandemic. The total paralysis of the country for two weeks, the intensive restrictions on economic activities and mobility for two months and the conditions of movement and leisure in the new normality have had devastating influences on businesses in this sector, and, above all, on their workers.

Table 13. Employed migrants by economic sector (2021).

Region	Employed population*	Economic weight (%)
Industry		
Spain	245.1	100.00
Madrid	29.7	12.11
Construction		
Spain	261.6	106.74
Madrid	54	22.01
Services		
Spain	1,734	707.56
Madrid	392.9	160.34
Note: *The unit of measurement for the employed population column is thousands of individuals. Industry is the reference index for the weight of the economic sector. This index reflects how large or small the sectors are. Source: Case leads elaboration based on Autonomous Community of Madrid (2021).		

Table 14. Employed migrants by type of contract, gender and autonomous community (2021).

	Permanent contract*	Temporary contract*	Seasonality rate (%)
Total			
Spain	1,261.7	766.6	37.79
Madrid	298.3	111.8	27.26
Men			
Spain	674.8	428.3	38.83
Madrid	137.0	56.9	29.33
Women			
Spain	586.9	338.3	36.57
Madrid	161.3	54.9	25.40
*The unit of measurement for the employed population column is thousands of individuals. Source: Own elaboration based on Autonomous Community of Madrid (2021).			

One of the last dimensions examined is the type of contract that migrants have, as shown in Table 14. In this case, the figures that we find most significant are those regarding temporary contracts. The last column in Table 14 shows seasonality rates. The seasonality employment rate refers to the ratio between the number of employees with temporary contracts over the total number of employees. As we can see, women's rate is higher than men's, both in Madrid and in Spain. Migrant women have higher unemployment and employment rates than men and have higher rates of temporary work. Due to their labour characteristics, they are much more vulnerable than men to a particularly incisive crisis, which has left great economic devastation.

In addition to the picture that statistics show, the Spanish labour market is a highly dual one (Davia & Hernanz, 2004). This entails that there are two groups, a privileged and an underprivileged one. The first hold good jobs, with salaries that allow them to live comfortably, with better conditions and with social protections in place when they are sick or find themselves unable to work. In contrast, there is a second category whose occupations are hard and strenuous, low paying, they are more often submitted to temporary contracts and more likely to be laid off. In addition, these occupations are more likely to navigate in the verges of the informal economy, increasing the difficulty of accessing social benefits. Migrants tend to concentrate in occupations that can be classified in the second group. In other words, they are more likely to be present in low-skilled occupations that are more sensible to economic downturns.

To help companies navigate the pandemic, the Ministry has passed legislation that facilitated working from home and have reached agreements with the main social partners to put in place generous furlough programmes (Ministerio de Trabajo, 2021). The first measure has meant a significant shift in Spanish organizational culture. Traditionally, work in Spanish companies has strongly encouraged presence in the office of workstation. Many companies set home offices for their workers and have implemented policies to make this situation permanent or, at least, to allow for a flexible distribution of time between workers' home and their office. However, not every occupation can be done from home. For those who have not been able to carry on their activity with normality, the national government and the social partners negotiated successive furlough programmes that allowed companies to fare through this crisis without having to dismiss workers. In fact, this was a condition of the benefit programme. Those companies who applied for furloughs could not lay off their workers in the six months after they restarted, or they would be penalized with paying back the funding they had received through the furlough programme for all the workers in the company.

This programme should have provided support for members of these communities, whose work is highly concentrated on these sectors that suffered a deep blow due to the sudden reduction of the economic activity. Hospitality, construction, and care are sectors where a significant part of the economic activity is done informally to avoid paying taxes or to hire individuals whose administrative status is unclear. This means that there are large flows of cash that are unaccounted for. But also, that many citizens' earnings differ from their tax revenues and official statistics. Moreover, these workers' earnings often do not allow them to save enough so that they can navigate through a period with no income. Income surpluses in these households are often sent away to support family members that have stayed in their countries of origin. Lockdowns meant a sudden intense reduction of the economy, but it translated into a dire situation for these households: income flows stopped, the little savings they may have been far from sufficient to put them through a situation with an unknown duration (at least in March 2020) and they were away from their family and other networks that could act as safety

nets. Our expectation is that individuals in this situation turned to social services for help, even if before the crisis they had not been regular users.

Once the first months of the pandemic and the situation evolved into one closer to other economic crises, the labour market started to reactivate. Our expectation is that members of the migrant communities may have tried to profit from existing training opportunities to recycle themselves as the re-enter the job market. In our fieldwork we will be speaking to members of the local government, members of NGOs that work with migrant in providing training opportunities and citizens to explore how they have fared through the different stages of the COVID-19 crisis. Given that they were away from the usual networks that households rely on in difficult times, interviews should be able to provide insight on which have been the alternatives that they have found, the extent to which social services were able to provide help or whether they had to recur to the third sector for a more flexible approach that better adapted to their specific needs.

Descriptive representation of migrant communities is generally low across different levels of government in Spain (Espírito-Santo et al., 2019; Kakepaki et al., 2018). At the national and regional level, only Spanish nationals have the right to vote, which means that only those migrants who have been granted full citizenship are able to vote and be elected. This process is long and costly, although in the last years the numbers of citizens in this situation has increased. Presence of migrants from Latin American and African countries, the two communities in which we are particularly interested has been almost non-existent in Spanish legislatures. The entry of Podemos into the political arena seems to have changed this by including MPs of migrant origin in their lists to a larger extent than other political parties (Kakepaki et al., 2018).

Turning to the local level, the picture is significantly different. For instance, suffrage rights are broader and migrants whose countries of origin have signed treaties granting equivalent right to Spanish nationals are allowed to vote. Namely, citizens from Bolivia, Cabo Verde, Chile, Colombia, Korea, Ecuador, Iceland, Norway, New Zealand, Paraguay, Peru and Trinidad and Tobago with legal residence in Spain can vote in the local election of the municipality where they are registered as residents. Even if numbers have increased over the years, the election of representatives from migrant origin remains very limited (Vintila & Morales, 2018). Amongst those individuals who have the right to vote, their likelihoods of voting in these elections are between 40 and 60%, with Latin American nationals being amongst the most likely to vote (Pilati & Morales, 2018, pp. 83-84). Their likelihood of engaging in other extra-electoral activities is significantly lower (Pilati & Morales, 2018, p. 85).

Through our interviews we expect to gather further information about the extent to which citizens quiesce with the situation or they believe that being more present in local councils and governments would lead to a better addressing of their demands. The literature on participation suggests that those in vulnerable situations are less likely to participate than those who have their minimal needs covered because vulnerable citizens lack the resources (in terms of social imbrication, skills, and time availability) to participate. Thus, it would not be surprising to find that they are disaffected regarding institutions, but they view this situation as somewhat unchangeable.

In interviews research done for WP4 and 5, public officials from the regional and national levels declared that they had not undertaken specific communication policies regarding migrant communities. The situation, especially in the first months of the pandemic, put them under such high levels of pressure and need for immediacy that communications were targeted at the general

population. The expectation is that mass media would act as bridges, commenting on their statements and complementing the information they were providing to render it accessible.

Our expectation is that local governments, as the level of government closest to citizens should have done the effort of being in contact with representatives or organizations that voice the interest of vulnerable members of migrant communities. However, it could also be the opposite situation given previous findings. To explore these expectations and better understand the communication channels that operated we will ask public officials, practitioners, and members of NGOs. Our sample of NGOs is based on a list provided by local authorities of organizations with whom they collaborate.

The RMI is one of the benefits that have experienced significant changes during the COVID-19 pandemic. At the beginning of this period, it was a series of local or regional initiatives meant at providing some income to individuals who had no other means to sustain themselves. However, halfway through the pandemic, the government passed legislation stablishing a nationally funded RMI. This social benefit is aimed at preventing the risk of extreme poverty and social exclusion of people who live alone or are part of a cohabitation unit and lack the minimum economic resources to cover their basic needs. It is configured as a subjective right to an economic benefit. It is part of the protective action of Social Security schemes and guarantees a minimum level of income for those who are in a situation of extreme economic vulnerability. It is intended to act as a buffer for individuals or households so that they have a real chance to find opportunities for social and labour inclusion and take them out of the negative feedback loop of social exclusion (Ayuntamiento de Madrid, 2021e). Table 15 shows that the number of beneficiaries of this programme is significantly larger in neighbourhoods with high rates of migrant population, such as Carabanchel, Usera, Puente de Vallecas or Villaverde.

Table 15. Number of beneficiaries of the Minimum Insertion Income (RMI) benefit by District in 2020.

District	Beneficiaries
01. Centro	**653**
02. Arganzuela	203
03. Retiro	80
04. Salamanca	82
05. Chamartín	97
06. Tetuán	631
07. Chamberí	113
08. Fuencarral-El Pardo	425
09. Moncloa-Aravaca	189
10. Latina	980
11. Carabanchel	**1,570**
12. Usera	**1,327**
13. Puente de Vallecas	**2,710**
14. Moratalaz	454
15. Ciudad Lineal	448

16. Hortaleza	308
17. Villaverde	**1,262**
18. Villa de Vallecas	1,130
19. Vicálvaro	671
20. San Blas - Canillejas	621
21. Barajas	63
Total	**14,371**
Source: Case leads elaboration based on data by Ayuntamiento de Madrid (2021e).	

Table 16 describes the number of beneficiaries of First Care Units and Social Services Centres by District. These facilities are the units where social workers interview possible beneficiaries of the different programmes that are under this framework. Together with table 12, they provide a complete picture of where are the most vulnerable family units that the city council has in its radar. It is an elementary resource in the City Council's care network because it acts as gatekeeper for the rest of the programmes, directing potential beneficials to where their needs are going to be taken care of. Similarly, to what showed the table above, those districts with a larger number of interventions are the ones with higher concentrations of migrants. Available data allow us to compare the number of beneficiaries before the COVID-19 pandemic, in 2019, and during the pandemic, in 2020. The table shows a sharp increase in interventions from 2019 to 2020. For instance, in Carabanchel, social services tended over 2300 beneficiaries in 2020 compared to the previous year. Similarly, in Usera, there was an increase in 800 beneficiaries. It is true that our data are not ideal, as individual behaviours should not be inferred from aggregate data. Yet, these are the best tools available to triangulate the phenomenon of interest.

Table 16. People attended to in the First Care Units and Social Services Centres by district.

District	2020	2019
01. Centro	**4,761**	**3,572**
02. Arganzuela	3,943	4,53
03. Retiro	2,210	2,391
04. Salamanca	2,857	3,841
05. Chamartín	2,688	3,506
06. Tetuán	7,059	4,882
07. Chamberí	2,553	2,806
08. Fuencarral-El Pardo	3,479	4,042
09. Moncloa-Aravaca	2,590	3,479
10. Latina	8,708	7,413
11. Carabanchel	**11,924**	**9,585**
12. Usera	**6,484**	**5,627**
13. Puente de Vallecas	**13,421**	**14,149**

14. Moratalaz	2,930	3,484
15. Ciudad Lineal	7,401	7,535
16. Hortaleza	3,888	4,575
17. Villaverde	**5,573**	**4,355**
18. Villa de Vallecas	3,337	4,471
19. Vicálvaro	2,391	3,120
20. San Blas - Canillejas	5,338	6,902
21. Barajas	956	1,316
TOTAL	**104,491**	**105,584**
Source: Case leads elaboration based on data by Ayuntamiento de Madrid (2021e).		

Table 17 refers to the number of financial benefits distributed by district. Regarding this programme, table 17 shows that differences between districts are not so evident. Puente de Vallecas is, by far, the district with more recipients, with 671,184 beneficiaries. However, the following district is not one of the districts that have been mentioned in the previous comments but Latina, with 482,875 recipients. This could be the result of the way in which economic aids are operationalized, because they include disability pensions and other forms of economic aid available for those who cannot apply for labour benefits because they do not meet criteria such as the minimum contribution.

Table 17. Economic aids by district in 2020.

District	Benefits
01. Centro	**251,575**
02. Arganzuela	80,512
03. Retiro	117,96
04. Salamanca	84,41
05. Chamartín	181,167
06. Tetuán	224,352
07. Chamberí	224,167
08. Fuencarral-El Pardo	161,673
09. Moncloa-Aravaca	180,42
10. Latina	482,875
11. Carabanchel	**200,78**
12. Usera	**255,364**
13. Puente de Vallecas	**671,184**
14. Moratalaz	154,422
15. Ciudad Lineal	271,289
16. Hortaleza	185,861

17. Villaverde	**171,251**
18. Villa de Vallecas	98,764
19. Vicálvaro	130,808
20. San Blas - Canillejas	61,34
21. Barajas	133,291
Total	**4,323,467**
Source: Case leads elaboration based on data by Ayuntamiento de Madrid (2021e).	

Table 18 describes the distribution of interventions with minors in day care centres according to their nationality and per district. Here we find two distinct groups of children. First, those who are living in Spain and their household needs the intervention of social services because there is some form of abuse taking place or they mediate when there are difficult separations, for example, providing safe pick up points for parents. Second, unaccompanied minors that arrive in the country and are put under the guardianship of the regional government. While amongst the first origins are varied, the latter are all from migrant origin. As a result, Table 15 shows a dominance of interventions of this kind with children born outside Spain. In fact, without considering the districts, the number of children served by day centres is almost twice as high in the Spanish population as in the migrant population. Albeit, the districts with the highest numbers of interventions are the ones that have been mentioned above, Latina and Tetuan also show significantly large numbers. Similarly, to what Table 14 described, these districts have large numbers of this kind of intervention. It should be highlighted that these two districts, even if their numbers are not as significant as Usera or Villaverde, have notable migrant communities.

Table 18. Day Care Centres. Minors attended according to nationality and district in 2020.

Districts	National	Immigrants
01. Centro	**66**	**73**
02. Arganzuela	25	18
03. Retiro	21	12
04. Salamanca	27	13
05. Chamartín	33	11
06. Tetuán	101	41
07. Chamberí	31	10
08. Fuencarral-El Pardo	36	10
09. Moncloa-Aravaca	33	8
10. Latina	124	74
11. Carabanchel	**84**	**55**
12. Usera	**80**	**52**
13. Puente de Vallecas	**127**	**80**
14. Moratalaz	65	29

15. Ciudad Lineal	61	25
16. Hortaleza	28	16
17. Villaverde	**103**	**36**
18. Villa de Vallecas	73	19
19. Vicálvaro	75	31
20. San Blas-Canillejas	97	39
21. Barajas	42	5
Total	**1,332**	**657**
Source: Case leads elaboration based on data by Ayuntamiento de Madrid (2021).		

Preliminary results from the interviews we have conducted so far, have provided relevant information that will articulate our case study from this point onwards. Both policy makers at the local level and representatives of the third sector have described a similar reality. The different interventions that were carried out, in any social and health care area, both by public institutions and third sector entities did not positively discriminate any social or population group. The profile of those who found themselves in a situation of vulnerability grew so exponentially that all these agents shared priorities. Families, households, and individuals reached a point where their primary needs were not covered. In the city of Madrid, hunger was a widespread problem that affected multiple households. In this sense, a network of services aimed at getting food into homes was built. However, the shopping baskets that were distributed did not only include food but also amenities for households whose savings quickly ran out and where unable of guaranteeing new income.

One of the additional consequences of the sudden halt was that households that had so far managed to sustain themselves, even if it was in a precarious equilibrium, required the help of whoever could give it. Be it social services or an NGO. In this sense, efforts were directed at providing equal attention to everyone who needed it. NGOs and Madrid City Council institutions have mentioned as particularly vulnerable groups: homeless people, single-parent households, households with children and no income, immigrants, trafficked women, battered women, elderly people, elderly people in residential homes... etc. However, what their words show is that their deeds tried to reach as far as possible, instead of specializing in one single group. They tried to ensure that aid was universal and for all those who needed it. Interviews with the representative of one of the largest NGOs, Cruz Roja (Red Cross in Spanish), underline how citizens of Spanish origin were more numerous as assistance recipient than migrants. More detailed and structured results should become available once the interviews are completed, transcribed, and coded.

COVID-19 Vaccination

Vaccination, as was the case for access to health services was in the hands of the regional government. Thus, local authorities had a very limited role, mainly linked to logistic collaboration. For instance, Community health centres, which oversee the social dimension of health (training in good alimentary habits, sexual and reproductive health issues, active ageing, or prevention of tobacco consumption, amongst others) also became vaccination centres.

Turning to access to vaccines, the regional government adopted a policy where access was prioritized over other characteristics (Autonomous Community of Madrid, 2021). In this regard, vaccination

policies were put in place so that anyone who lived in the region was eligible to get a shot. Criteria were set, especially in the first stages of the vaccination, when the number of vaccines that arrived in the country was limited, to prioritize the vulnerable. In this regard, older cohorts were given earlier access. Yet, those who were primary carers of these cohorts were also given priority in access to the shots. Migrants, particularly women, were early shot recipients given that this is one of the occupations where they are more present. Moreover, vaccination policies included provisions for citizens to whom access was difficult (namely because they do not have a regular address or they find themselves in an irregular administrative situation, amongst other circumstances), saving for them one-shot vaccines to maximize population coverage. Successive adaptations of vaccinations plans have factored-in the increased availability of vaccines, time constraints of citizens or the third shot, amongst others.

Vaccination campaigns in Spain have been considered a success. In less than a year, vaccination rates across cohorts are well over 70% across age groups. Publicly available data do not point to any group falling behind in terms of vaccination. However, there is one caveat to this. To avoid signalling of any ethnic group, publicly available data does not identify the nationality of those getting vaccinated. Thus, even if migrants have not faced any institutional barrier in terms of access, we cannot identify whether there is any migrant community with significantly lower vaccination rates because they have been targeted by misinformation or because they particularly distrust public authorities.

See Appendix A3 for the complete SES framework, timeline, and location of URJC & SAMUR's case study (Spain).

3.4 SAPIENZA & UCSC: Italy

3.4.1 Overview & Timeline

The goal of the case study is to explore the consequences of the COVID-19 pandemic on physical and mental wellbeing of Italian health care workers (HCWs), as well as its impact on their daily life and family relations. To this end, we will develop a survey based on a number of hospitals located in the city of Rome. Respondents will include HCWs working in different hospitals, with different types of occupation, including nurses, generalist medical doctors, specialist medical doctors, etc. Depending on the final choice on the number of hospitals included in the analysis our case study will be either at the municipal level or at the neighbourhood level. The case study will rely on desk research (based on official documentation/legislation, national/local reports, relevant literature), qualitative data from one-to-one semi structured interviews and quantitative data from an on-line survey. For the semi-structured interviews, we are planning to use a convenience sampling. We are planning to include professional workers (nurses, physicians, and midwives) working at the Policlinic Gemelli of Rome. To assure the reliability of the findings the minimum number of participants is n>14, and interviews will be conducted until data saturation. In the survey, given that the Policlinic Gemelli currently employed 2094 nurses and 1009 physicians, we are planning to include and randomized at least 100 physicians and 200 nurses. We are currently working on the development of inclusion and exclusion criteria for the survey, as well as on the toolbox.

- Before pandemic (t0)
- Early in the pandemic (e.g., during first lockdown – January to May 2020; t1);
- During the rollout of vaccines - New variants' waves - Current situation (June 2020-present; t2).

3.4.2 Characterization of vulnerable target populations

A large body of literature has shown that HCWs were at increased risk of infection and suffering from poor mental health during the pandemic.

To date, 12,395,232 cases of confirmed SARS-CoV-2 infections have been reported in Italy, of which 233,304 were among HCWs. In April 2020, the Italian National Institute of Health (ISS) reported that 16,991 HCWs had tested positive for SARS-CoV-2. These HCWs had a median age of 48 years, 68% were women and 32% were men, which is in line with the gender composition of HCWs in the Italian healthcare system (66.8% women and 33.2% men). The infected HCWs accounted for 10.7% of the total number of positive cases. The estimates showed that medical doctors' deaths were the majority (n=119, 57.8% of total deaths); followed by nurses 16.5% (n = 34), nurse aides 8.3% (n = 17) and dentists 5.8% (n = 12) The COVID-19– related deaths include 2 nurses who committed suicide due to unsustainable pressure at work. The number of deaths among Italian HCWs was higher as compared to that registered during the same period in other countries including China, where the epidemic began. General practitioners were the most hit among all medical specialties, registering 32% deaths (n = 66).

The ISS also developed a retrospective epidemiological analysis of the number of infected HCWs by category, care context, and site where the infection presumably occurred, together with type of activity carried out at the time of infection (data are available for 16,179 of the 16,991 HCWs confirmed positive for the virus). Nurses and midwives together are the most represented with 43.2% (n = 6,988) of all infected HCWs, followed by doctors 22% (n = 3,574) distinguished in hospital doctors 19% (n = 3,071), general practitioners 0.8% (n = 130) and other doctors 2.3% (n = 373). Data for the healthcare context in which the infections presumably occurred are available for 11,738 HCWs; of these, 70.9% have contracted COVID-19 while serving in hospitals or in emergency care services (ambulance assistance).

In addition, our case study will develop a strong intersectional approach by considering several characteristics (such as gender, family composition, type of occupation, education) that are likely to influence HCWs' well-being outcomes. In addition to infections, we will analyse effect of the pandemic on HCWs mental health (levels of stress, burn out, resilience, vaccine hesitancy) and a number of well-being indicators (including time use indicators, family distress, family work conflicts).

3.4.3 Characterization of identified systems

The daily lives of HCWs and their families have been widely disrupted by the pandemic. This may have affected the division of family labour and the gender norms that govern it. Moreover, the pandemic may have affected the relationship between HCWs and their employers as well as their level of trust into the organization of the health system.

The workload for HCWs was already high before the pandemic due to public health spending cuts. Unpaid care work within the family has traditionally been performed largely by women, creating a double workload for employed women (including HCWs) already before the pandemic.

The public's view of HCWs changed considerably during the pandemic, from an idealised view (heroes) to stigma and back to (perhaps?) normality.

New HCWs have been recruited during the health emergency, particularly among medical trainees. However, we are not planning to focus on this aspect in our case study although we will reflect levels

of preparedness in terms of public health expenditure and personal shortage before the pandemic. We will rely on Eurostat data to monitor public health expenditure in recent years.

Earnings and household income are closely linked to the type of occupation of the HVCWs, which will be considered in our case study. HCWs did not suffer income or job losses during the pandemic, however their family members may have suffered from job or income loss.

The government targeted the HCWs with some special support measures, such as the babysitter bonus or the mandatory vaccination against COVID-19. The reactions to these measures varied. For example, at first, some HCWs protested mandatory vaccination. Nowadays, almost all the HCWs are fully vaccinated. Some support measures, such as free psychological support for HCWs were never introduced or varied greatly from region to region. The representation of the community of their local or national government in Italy is a very complicated phenomenon to study, which should require an individual case study. We faced a change of governments during the pandemic and these changes also their policies. Moreover, regional government had a big role the management of the pandemic, shaping HCWs' experiences.

HCWs communicated with their government or organizations (e.g., hospital) mainly through guidelines and protocols. These communication systems were not always effective during the pandemic, due to the evolutive nature of the situation. However, it does not fit the main aims of this case study to investigate the communication between government and HCWs.

COVID-19 Vaccination

HCWs had earlier access to vaccines compared to most of their patients, their families, and the population at large. Despite their background, some HCWs have been reluctant to vaccinate. One of the aims of this study is to analyse health workers' attitudes towards the vaccine.

Italy was the first country in Europe to make vaccination against COVID-19 mandatory for HCWs, as its government approved an emergency decree on 1 April to contain a third wave of the disease. HCWs who refuse the vaccination have the option of being transferred to jobs that do not risk spreading the virus or being suspended without pay for one year. According to the Order of Physicians, Surgeons, and Orthodontists (FNOMCeO), the majority of doctors, nurses and dentists in Italy have already received or will soon receive the COVID-19 vaccine. Only one in 10,000 medical staff refuse to be vaccinated, it said, and greater reluctance is seen among less qualified workers in medical facilities and nursing homes (Paterlini 2021).

See Appendix A4 for the complete SES framework, timeline, and location of SAPIENZA & UCSC's case study (Italy).

3.5 SYNYO: Austria

3.5.1 Overview & Timeline

Our case study will focus on the experience of female frontline workers at supermarkets with regular customer contact based in Vienna. For this, we chose a prominent Austrian-found Supermarket chain called SPAR AG. The field research will be conducted in Vienna, Austria. We will select three branches in neighbourhoods with varying demographic compositions to get a better understanding of the role of customers in the supermarket environment. Additionally, we will choose supermarkets that also vary in their size and layout. In our research, we focus on frontline workers: cashiers and other sales personnel at SPAR AG supermarkets. It is important to note that in Austria a disproportionate number of women work in public facing service jobs (e.g., sales). Additionally, low skilled labour, similar to the one performed at supermarkets, is often performed by migrants. As such, our research will focus on women with migrant backgrounds as well as Austrian-born women working in frontline jobs at Viennese supermarkets.

Our research interest is to understand the female frontline workers' perception of risk and safety in their lives as well as at their workplace. Our overall research questions are as follows:

- How did they perceive the infection risk they were exposed to at their working place?
- Did they feel valued and protected by their co-workers, their employer, the government and the customers?
- How was their overall risk perception and feelings of safety throughout the COVID-19 pandemic and how did it change over time?

The timeline we are looking to investigate are as follows:

- Before COVID-19: until March 2020
- 1st Wave (fear): March – June 2020
- Pre-vaccination (including step-by-step immunization of population): July 2020 – June 2021
- Feeling of immunity & security through vaccination: July 2021 – December 2021
- Omicron (feeling of security lost): January 2021 – now

3.5.2 Characterization of vulnerable target populations

We will conduct interviews with female frontline workers at the SPAR AG supermarket chain. We will split the sample into a minimum of six to eight Austrian-born women and a minimum of six to eight migrant women. Ideally we are aiming to find women from the same Eastern European countries. However, in case we are not able to do that we will focus on migrant women from a variety Eastern European countries, but exclude migrant women from other countries. If available we will also conduct two or more interviews with staff in supervisors, management or sustainability roles.

According to the latest data, collected in 2019, around 2,07 out of 8.98 million people living in Austria have a migrant background. This is about 23,7% of the population. The biggest migrant's groups are from Germany, Romania, Serbia and Turkey followed by Bosnia and Herzegovina, Hungary, Croatia, Poland, Syria as well as Afghanistan.

As of January 2021, Vienna had an overall population of 1.9 million; it is the biggest city in and capital of Austria. 41,9% of Vienna's population are of migrant background (this includes people with Austrian Citizenship born overseas as well as other nationalities born overseas or in Austria). Of the 1.9 million people who reside in Vienna 982.942 are women and 938.007 are men (the data collection did not include non-binary gender identities) (Stadt Wien 2021). In comparison, as of January 2021 Austria

counted 8.9 million inhabitants of which 17% were not born in Austria. As such, the amount of migrants and people with a migrant background living in Vienna is much higher than in other parts of the country. However, overall COVID-19 did not change much in relation to these figures. On 01.01.2020, the population in Vienna was 1.911.191. The percentage of people with a migrant background was 41,3%. The main migrant communities were consistent with those in 2021. Similarly, of these 1.9 million people, 978.900 were women living in Vienna and 932.291 were men living in the capital city (Stadt Wien 2020).

SPAR has about 50.000 employees in Austria and about 30.300 cashiers. Out of these 30.300, about 5.650 cashiers are located in Vienna. SPAR AG does not keep records of the countries of origin of their employees; however, we were informed that, in all of Austria, many migrant workers come from successor states of Yugoslavia: Bosnia, Croatia, Serbia. There are also many workers from Hungary in eastern Austria. Vienna in general has workers from a variety of nations; SPAR's apprentice academy includes apprentices from about 30 nations.

There are various factors that create certain vulnerabilities for female frontline workers in supermarkets. During the COVID-19 pandemic, supermarket personnel have been continuously in contact with customers, who potentially carry the COVID-19 virus, at their workplace. As part of the critical infrastructure, supermarkets were open at all times during the ongoing health crisis and home office was no option for floor staff. Through their role, they also have been exposed to (verbal) abuse and frustration from customers about either COVID-19 related regulations such as mandatory mask wearing and limits on bulk purchasing of essential goods.

In terms of their profession and gender, the chosen cohort is at risk of economic vulnerability in relation to men in general as well as women in higher skilled jobs. In Austria, sales jobs are highly feminised and generally not well paid. Furthermore, trades are the industrial sector where most women work (17.90% in 2020). Additionally, many women are only working part time due to care responsibilities or a lack of opportunities for full time employment. In 2020, 55,3 % of women working in sales worked part time compared to only 10,5% men. About 48% of the cashiers in SPAR AG supermarkets are working part time. As such, these women are at risk of being part of the group of working poor (Riesenfelder et al. 2011).

Female frontline workers also have been affected by their continuous (and possibly increased) care responsibilities during the pandemic, for example due to school closures and the switch to distance learning. Finally, a high proportion of our cohort are of migrant background. As such they experience discrimination and disadvantage at the job market.

Studies on supermarket frontline workers identified several aspects of increased vulnerability, such as extreme working conditions due to violent customer behaviours, absent management, a lack of clear organisational policies, and the different views of appropriate health and safety measures among colleagues (Cai et al. 2021), exhaustion and reduced professional efficacy (Barello, Palamenghi, & Graffigna 2020; Giusti et al. 2020), psychological consequences such as burn-out and dehumanisation (Rodríguez-Rey, Garrido-Hernansaiz & Bueno-Guerra 2020; Valtorta et al. 2021), and experiences of stigma of both customers and frontline workers (Baker et al. 2020; Barbieri, Basso & Scicchitano 2021). Frontline workers may be impacted emotionally (e.g., due to fear, anxiety, depression), socially (e.g., due to social exclusion, discrimination) and/or occupationally (e.g., job satisfaction, insecurity) (Barbieri, Basso & Scicchitano 2021). While none of these studies focus on Austria and its specific context, we can assume that there are certain overlaps and similarities.

While there are studies hinting at frontline supermarket workers experiencing stigmatisation themselves (Barbieri, Basso & Scicchitano 2021), there is no data on the situation in Austria. In the target country, there were no broad scale and public discourses of stigmatisation of frontline workers in supermarkets. On the contrary, immediately after the outbreak these frontline workers received a lot of positive attention. Media and politicians praised frontline workers at supermarkets as the backbone of our societies and the 'forgotten essential workers'. However, it quickly became quiet again and no structural changes occurred that would increase the status of supermarket frontline workers substantially. However, some supermarket chains paid bonuses to their employees. For example, SPAR AG paid out 3 Mio bonuses to their employees by end of March 2020. However, the everyday experiences of frontline workers at supermarkets and their experience of stigma at work and their private life will be explored in our empirical research.

3.5.3 Characterization of identified systems

In Austria, supermarkets were regulated by their own rules and hygiene standards as well as national and local regulations such as: hygiene measures, distancing measures, social and physical density norms, ventilation norms. Supermarkets are places where personnel and customers meet and closely interact. Through the direct customer service, the system was also impacted by current COVID-19 rules to stop the spread of the virus such as mask wearing, earlier closing hours, social distancing, etc. Finally, the frontline workers at the supermarket and their workplace are influenced by management decisions and personnel, customers and government rules to stop the spread of COVID-19.

It is unlikely that the researchers will find data on the exposure and infection rate of female frontline workers working in supermarkets in Austria. However, our qualitative research will focus on the perception of risk and safety in relation to COVID-19. This case study will investigate if, when and where the frontline workers felt at risk of contracting the virus at their work site as well as where and through which measures, they felt well protected. Further, we will investigate their stressors and areas of concern for these frontline workers in relation to COVID-19, their work space and their private lives (see Rodríguez-Rey et al. 2020).

It is unknown to us whether female frontline workers in supermarkets had higher infection rates than the general population in Austria. There may have been a higher infection rate due to the continuous exposure to customers and as a consequence a continuous exposure to the virus. However, Austria introduced mandatory mask wearing on the 30st of March 2020. In the middle of the second wave, FFP2 masks were made mandatory in Austria. These are known to protect well against COVID-19. FFP2 mask wearing is currently still mandatory in March 2022. The infection rate of supermarket frontline workers at their workplace might only be a little higher than in the general population since the introduction of FFP2 masks. Infection rates before mask wearing was made mandatory might have been considerably higher compared to the general population. However, there are no known COVID-19 clusters in supermarkets in Austria. Nevertheless, the Arbeiterkammer (AK), the offical lobby of employees and workers in Austria, highlights that supermarkets are a high exposure sight and demand that COVID-19 is recognised as occupational illness for those working in these environments.

Supermarket workers were praised in the beginning of the pandemic. For a short period of time, they received a lot of recognition as the often 'overlooked and too little praised' essential workers. They also received extra payment in the form of a 'bonus'. However, this discourse disappeared quickly again. Yet, the workplace of supermarket frontline workers continues to be heavily impacted by the COVID-19 pandemic, with regulations such as mask wearing, shields, distance regulations, etc.

In Austria, the minimum salary as well as other work conditions are regulated through branch specific collective labour agreements. Depending on the various tasks and the time assigned to each task, the women in this research are either categorised as employees or labourers. The minimum wage for an employee based on the collective labour agreement for the industry 'trade' is €1.672,00 and €1.700,00 for workers per month. In comparison, the minimum wage for employees in 2021 was €1.630,00 and for workers it was €1.642,00. Similarly, in 2020 the minimum wage for employees was €1.606,00 and for workers it was €1.651,00. These increases based on the years of work experience and education. SPAR AG is paying more than the minimum wage to their employees working at the sales point and the gourmet section.

Overall, the pandemic did not negatively impact the income of sales personnel at supermarkets as they were not affected by lockdowns. According to the information we received by SPAR AG, their staff received two bonuses for their work as frontline workers during the pandemic. Due to its status as critical infrastructure, jobs at supermarkets were not endangered; on the contrary, personnel were hired to account for the increased workload. During all lockdowns, supermarkets stayed open, although at times with shortened opening hours, which influenced working hours of the staff.

According to SPAR AG, no employees lost their jobs during COVID-19. Due to the increased demand by the customers, staff has been increased, especially in the first year of the pandemic. As such, the overall job market improved for sales personnel and other floor staff at supermarkets. Furthermore, while there is usually a 20-30% fluctuation in the supermarket, this number was lower at the beginning of the pandemic.

COVID Testing

Already in April 2020, the Austrian government conducted screening tests in work places with high exposure rates including supermarkets to identify asymptomatic COVID-19 cases. Austria also established regular screening testing programs for companies in early 2021. This also included supermarkets.

COVID Vaccination

Overall, the vaccination rate is higher amongst Austrians (65%) than amongst migrant populations (51,5%). However, there are significant differences in vaccination rates depending on the country of origin; for example, migrants of Turkish background have a vaccination rate of 73,2% whereas migrants with Russian background only have a vaccination rate of 44,5%. Further, the vaccination rate of the active labour force is higher than of those not actively involved in the labour market. Here too, there are significant differences amongst the various professions. Unfortunately, there is no available data for frontline workers in supermarkets.

SPAR AG ran a company-wide vaccination campaign as well as a vaccination programme in May, June and July 2021 to motivate their employees to get vaccinated. Due to the prioritisation of the rollout of the vaccination programme in Austria, this meant that frontline workers in the supermarket were able to get early access on the vaccination in comparison to other groups. Furthermore, SPAR stated to react to the increased health risk caused by the COVID-19 pandemic by implementing and certificating hygiene management according to the TÜV Austria Standard. Ventilation has been increased up to 100%, and surfaces such as mountings, railings or cash machines were cleaned and disinfected more than usual (SPAR Holding 2021).

As of March 2022, there were six so-called "COVID-19-Schutzmaßnahmenverordnung" (COVID-19 Protective Measures Ordinances) put in place by the Austrian federal government. In March2022, the 4th COVID-19 Maßnahmenverordnung (6th amendment) was in place, which states that all supermarkets stay open and are accessible to all persons. It is mandatory to wear FFP2 masks for both customers and employees. While Vienna has stricter rules than other parts of Austria, the same rules for supermarkets apply for all of Austria.

In addition to the mandatory wearing of masks, the so-called "3G rule" applied at the workplace until the 5th of March 2022. Prior to that, at workplaces where physical contact between persons (defined as meeting between colleagues, employees of other companies, with customers, etc.) cannot be excluded, employees needed to have a "3G certificate", i.e. a certification that they are either vaccinated (geimpft), recovered (genesen) or tested (getestet). The 3G certificate must be kept at hand for the duration of the stay at the place of work. However, these rules currently do not apply anymore but mask wearing at supermarkets remains mandatory.

During the various lockdown periods in Austria, regulations stated that supermarkets had to close an hour earlier than usual, i.e. at 7pm instead of 8pm. Furthermore, different distancing rules were introduced during the lockdown, which was regulated by the supermarket e.g. in limiting the number of customers allowed inside, or by providing stickers to indicate distances at the cash desk.

The following table provides an overview of the regulations and their impact on frontline workers in supermarkets.

Table 19. Overview of regulations impacting the case study community

COVID-19 regulations	What it means for frontline workers in supermarkets
12.11.2020 – Verordnung des Bundesministers für Soziales, Gesundheit, Pflege und Konsumentenschutz, mit der besondere Schutzmaßnahmen gegen die Verbreitung von COVID-19 getroffen werden (COVID-19-Schutzmaßnahmenverordnung – COVID-19-SchuMaV)	▪ mandatory to wear masks (both customers and supermarket workers) ▪ distance regulations: keeping 1m distance to others ▪ reduction of number of customers allowed in the store (10m2 available per customer) ▪ early closing of supermarkets (19.00)
04.12.2020 – Verordnung des Bundesministers für Soziales, Gesundheit, Pflege und Konsumentenschutz, mit der besondere Schutzmaßnahmen gegen die Verbreitung von COVID-19 getroffen werden (2. COVID-19-Schutzmaßnahmenverordnung – 2. COVID-19-SchuMaV)	▪ mandatory to wear masks (both customers and supermarket workers) ▪ distance regulations: keeping 1m distance to others ▪ early closing of supermarkets (19.00)

16.12.2020 – Verordnung des Bundesministers für Soziales, Gesundheit, Pflege und Konsumentenschutz, mit der besondere Schutzmaßnahmen gegen die Verbreitung von COVID-19 getroffen werden (3. COVID-19-Schutzmaßnahmenverordnung – 3. COVID-19-SchuMaV)	▪ mandatory to wear masks (both customers and supermarket workers) ▪ distance regulations: keeping 1m distance to others ▪ early closing of supermarkets (19.00)
14.03.2021 – Verordnung des Bundesministers für Soziales, Gesundheit, Pflege und Konsumentenschutz, mit der besondere Schutzmaßnahmen gegen die Verbreitung von COVID-19 getroffen werden (4. COVID-19-Schutzmaßnahmenverordnung – 4. COVID-19-SchuMaV)	▪ mandatory to wear FFP2 masks (both customers and supermarket workers) ▪ distance regulations: keeping 2m distance to others ▪ reduction of number of customers allowed in the store (10m2 available per customer); need to ensure that this is enforced ▪ early closing of supermarkets (19.00)
14.11.2021 – Verordnung des undesministers für Soziales, Gesundheit, Pflege und Konsumentenschutz, mit der besondere Schutzmaßnahmen gegen die Verbreitung von COVID-19 getroffen werden (5. COVID-19-Schutzmaßnahmenverordnung – 5. COVID-19-SchuMaV)	▪ mandatory to wear FFP2 masks (both customers and supermarket workers) ▪ 3G rule at the workplace ▪ Der Inhaber eines Arbeitsortes mit mehr als 51 Arbeitnehmern hat einen COVID-19-Beauftragten zu bestellen und ein COVID-19-Präventionskonzept auszuarbeiten und umzusetzen. ▪ Das COVID-19-Präventionskonzept gemäß Abs. 6 hat zusätzlich zu § 1 Abs. 6 Vorgaben zur Kontrolle von Nachweisen und zur Sicherstellung der Einhaltung von Auflagen zu enthalten.
10.12.2021 – Verordnung des Bundesministers für Soziales, Gesundheit, Pflege und Konsumentenschutz, mit der besondere Schutzmaßnahmen gegen die Verbreitung von COVID-19 getroffen werden (6. COVID-19-Schutzmaßnahmenverordnung – 6. COVID-19-SchuMaV)	▪ mandatory to wear FFP2 masks (both customers and supermarket workers) ▪ der Betreiber hat einen COVID-19-Beauftragten zu bestellen und ein COVID-19-Präventionskonzept auszuarbeiten und umzusetzen. ▪ Der Betreiber von Betriebsstätten darf – unbeschadet restriktiverer Öffnungszeiten auf Grund anderer Rechtsvorschriften – das Betreten des

	Kundenbereichs für Kunden nur zwischen 05.00 und 23.00 Uhr zulassen. ▪ 3G rule at the workplace

Regarding sick leave, the respective applicable legal regulations apply for employees and workers at SPAR AG. Beyond that, there were no separate or additional rules.

On the national level, the whole of commerce is represented through the Wirtschaftskammer Österreich (WKO, Austrian Federal Economic Chamber), which is the representation of interest for Austrian companies. This includes the whole of trade which includes food retailers. The WKO is one of the strongest representation of interest organisations in Austria; it influences political decision-making e.g. through petitions to change regulations such as 2G regulations for non-essential shops.

At the local level, the interests of supermarket workers are represented by the Arbeiterkammer (AK), the interest representation of workers in Austria; this organisation also has a national instance. Among its activities, the AK, for example, is to make statements in legislative procedures, send representatives to bodies and other organisations, carry out scientific studies, advising and represent members. In addition to the AK, the Österreichischer Gewerkschaftsbund (ÖGB, Austrian Trade Union Federation) - a labour union of employees - represents the interests of frontline workers in supermarkets. In February 2022, the AK and ÖGB asked for specific regulations for specific professions including supermarket workers regarding the increased risk to COVID-19 and the subsequent recognition of COVID-19 as an occupational disease, which has financial and other benefits to workers.

There have been no dedicated efforts by the Austrian federal government or the city of Vienna to specifically reach out to frontline workers in the supermarket with public health campaigns or vaccination campaigns. Regulations have been communicated via press conferences. However, lobbies such as WKO, AK and ÖGB have informed their members about specific and relevant aspects.

While the government has established general rules for the workplace (e.g., hygiene regulations), supermarkets have particular regulations. How these were perceived will be evaluated through the empirical research of the case study; there is no publicly available data for this. However, even prior to COVID-19 the food retailing sector already had strict hygiene regulations in place. Each employee receives training for these regulations, which range from wearing of clean working clothes to the usage of gloves, the application of gripping tongs in the fine food section, to the correct cleaning mechanisms for machines.

On a national level, regulations stated that masks were mandatory to wear inside supermarkets (for both customers and workers) throughout the entire pandemic, starting 30 March 2020. Initially, supermarkets handed out these masks for free, later they offered them for sale. At the beginning of April 2020, a range of hygiene regulations were introduced to supermarkets, including the provision of disinfectant, plexiglass shields at the checkout, regular disinfection of certain surfaces and limitations in the number of people allowed to enter the shop (Nagel et al. 2021). In January 2021, the mandatory wearing of surgical masks, cloth masks and other mouth-nose-masks was replaced by FFP2 masks.

Certain organisations - including supermarkets - are required to establish a “Präventionskonzept” (prevention concept), according to the 6th COVID-19 Protective Measures Ordinance. This, at the minimum, has to include:

- specific hygiene measures;
- regulations on what to do in the event of an infection;
- regulations concerning the use of sanitary facilities;
- regulations concerning the conception of food and drink, if applicable;
- regulations on the management of the flow of people and the number of people;
- regulations concerning equalisation measures, such as barriers and floor markings,
- requirements for the training of staff in hygiene measures and the supervision of the performance of a SARS-CoV-2 antigen test for self-testing;
- requirements for checking evidence and ensuring compliance with requirements.

As an organisation of critical infrastructure, and as an international organisation, SPAR introduced specific protective measures early on; already on 24 February 2020, a crisis committee was formed in Italy and subsequently in other countries. This committee informed employees since the beginning of the pandemic about regulations and measures (SPAR Holding 2021).

See Appendix A5 for the complete SES framework, timeline, and location of SYNYO's case study (Austria).

3.6 UGOT & SINUS: Sweden & Germany

In this deliverable the case studies conducted by SINUS and UGOT will be described at ones as they are following the same approach. However, they represent two individual case studies.

3.6.1 Overview & Timeline

The case study focuses on COVID-19 information-seeking and communicative behaviour among ethnic minorities living in socio-economically vulnerable sub-municipal units in Gothenburg, Sweden and Mannheim, Germany. Interviews will be conducted with ethnic minority/migration-background residents of the Östra Bergsjön and Hjällbo boroughs of Gothenburg and the Neckarstadt-West, Schönau, and Jungbusch/Innenstadt districts of Mannheim. These sub-municipal units were selected on the basis of socio-economic indicators commonly linked to negative health outcomes (e.g., high unemployment, high population density), as well as due to their large ethnic minority populations. Interviews will furthermore be conducted with local governmental, public health, and CSO stakeholders that provide services to, or regularly interact with, ethnic minority populations in the research sites. The case study will consider the individual behaviours of ethnic minority residents, but will do so within a social constructivist framework, i.e., in recognition of the embeddedness of individual behaviour and the dialectic of agency and structure. The social structures to be considered include participants' families and social networks, as well as local governmental and non-governmental institutions, in particular those involved in pandemic communication (e.g., health departments, health CSOs, the media).

The specific objectives of the case study are to compare communication behaviour and activities between ethnic minorities and ethnic Germans and Swedes, respectively, living in low SES neighbourhoods on the following issues:

- To identify what media (local, national, international, social media) residents have used to inform themselves about the COVID-19 pandemic

- To identify channels by which residents actively communicate about the COVID-19 pandemic, as well as means by which behaviours and attitudes may be passively transmitted (e.g., via social influence or "peer effects")
- To study the impact of communicative behaviour among residents on vaccination willingness and adaption to protective measures in specific
- To identify misconceptions about protective measures and vaccines among residents
- To study local stakeholder engagement with residents, and assess the strengths and weaknesses of various stakeholders' communication strategies
- To triangulate and identify mismatches between residents' and local stakeholders' understandings of the pandemic and the accompanying "infodemic"
- To study how information-seeking and communication among residents differ from communicative behaviour in the majority society

Qualitative interview data will be compared to results from previously collected national representative survey data in both countries, thus applying a multi-methodological approach. Results from interview and survey data will be used to develop policy guidelines and recommendations for best practices.

Since there was no lockdown in Sweden, we will focus on:

- (1) the initial spread of the disease (Spring 2020);
- (2) the phase where the vaccine was introduced (Winter/Spring, 2021).

Even if these periods are in focus, we intend to ask questions about the pandemic as a whole.

3.6.2 Characterization of vulnerable target populations

Östra Bergsjön and Hjällbo, Gothenburg (UGOT)

The Gothenburg suburbs Östra Bergsjön and Hällbo were selected because they, following the indicators in Table 20, score lower on SES than the average Swedish neighbourhoods.

The approximate sizes of the target communities follow:

- Ethnic minority/migration-background residents of Östra Bergsjön and Hjällbo, Gothenburg: Somali: 5,846
- Ethnic Swedish residents of Östra Bergsjön and Hjällbo, Gothenburg.
- The case uses qualitative primary data and quantitative secondary data. The qualitative dataset will comprise N=8 interviews with ethnic minority/migration-background residents and N=8 interviews with relevant stakeholders per research site.

Extensive quantitative data does not exist on the specific vulnerable populations of migration-background residents in the target neighbourhoods. However, quantitative data on the general populations of Sweden and Germany, as well as of the target municipalities, will be utilised to establish a baseline against which the qualitative findings on migration-background residents can be comparatively analysed and interpreted.

The following quantitative datasets will furthermore be used:

- The Resident panel, a quantitative web-based panel where residents with non-Swedish ethnical background in these boroughs answered questions in three waves (February/March 2020, September 2020, May 2021) about the COVID-19 (communication, protective measures,

vaccination, identity, trust etc). The number of respondents is app 300, recruited by personal contacts with residents in the areas (knocking doors, contacting people on the local square, hospital, library etc). The results will to some extent be compared to a panel wave collected in June 2018. We can also compare the results with the Citizen Panel, a self-recruited web-based panel with app 10,000 respondents living in Sweden. Respondents in the Citizen Panel have answered the same questions at the same time-periods as the Resident Panel.

Neckarstadt-West, Schönau, and Jungbusch/Innenstadt, Mannheim (SINUS)

- Ethnic minority/migration-background residents of Neckarstadt-West, Schönau, and Jungbusch/Innenstadt, Mannheim: TBD (SINUS)
- Ethnic German residents of Neckarstadt-West, Shönau and Jungbusch/Innenstadt, Mannheim
- The case uses qualitative primary data and quantitative secondary data. The qualitative dataset will comprise N=4 interviews with ethnic minority/migration-background residents, N=4 interviews with non-ethnic-minority-background residents, and N=8 interviews with governmental, public health, and civil society stakeholders who work in the research sites.

The following quantitative datasets will furthermore be used:

- SINUS-Institute conducted nationally representative quantitative surveys on the subject of COVID-19, including information and communication behaviours, during March 2020 (N=1014), May 2020 (N=1004), and March 2021 (N=1400). An additional representative survey is planned for March-April 2022. Topics covered include overall concern, appraisal of institutional responses, current emotional state, impact on everyday life, media use, attitudes toward misinformation, and (in March 2021) attitudes toward vaccination. These datasets will be drawn upon in order to provide insight into the attitudes and behaviours of Germans in general. Additional datasets utilised may include the COSMO COVID-19 Snapshot Monitoring study by the University of Erfurt (https://projekte.uni-erfurt.de/cosmo2020/web/) and the Federal Press Office Trendfragen survey series on Corona (available via the Leibniz-Institut für Sozialwissenschaften at https://www.gesis.org/home).

The case study will take into account the individual behaviours of ethnic minority residents, but will do so within a social constructivist framework, i.e., in recognition of the embeddedness of individual behaviour and the dialectic of agency and structure. The social structures to be considered include participants' families and social networks, as well as local governmental and non-governmental institutions, in particular those involved in pandemic communication (e.g., health departments, health CSOs, the media).

Mannheim was chosen as a target municipality due to its socioeconomic and ethnic diversity, as well as due to its status as a typical mid-sized city in the German industrial heartland. The neighbourhoods of Neckarstadt-West, Schönau, and Jungbusch/Innenstadt were chosen due to their comparatively poor performance on several socio-economic status factors commonly used in health research (e.g., as social determinants of health) (Galobardes 2006), as well as because a larger percentage of the population than the city as a whole identify as having a migration background. Similarly to the Gothenburg target neighbourhoods, Mannheim suburbs Neckarstadt-West, Schönau, and Jungbusch/Innenstadt are both immigrant-dense and score lower on SES than other Mannheim neighbourhoods (see Table 22).

3.6.3 Characterization of identified systems

Östra Bergsjön and Hjällbo, Gothenburg (UGOT)

In Sweden, the case study will be conducted in two immigrant dense suburbs to Gothenburg – Bergsjön and Hjällbo. Both suburbs are situated in the North-East outskirts of the city, in the district of South Angered. In several ways, the population in Bergsjön and Hjällbo differs from the average population in Gothenburg (see table 20).

Table 20. Sociodemographic characteristics of Bergsjön and Hjällbo vs. Gothenburg

2020	Bergsjön	Hjällbo	Gothenburg city, total
Born in other country	59,8 %	59,4 %	27,8 %
Foreign background*	82,5 %	86,9%	37,5 %
Average annual income, personal (2019)	201,200 SEK	197,600 SEK	326,100 SEK
Unemployment	18.1 %	19.3 %	8.3 %
Post college education, 3 yrs or more	17 %	14.7 %	37.3 %
Share of self-sufficiency	0.4	0.4	1.2
Own apartment/house	16.6 %	8.6 %	46.5 %
* Born in other country oneself, or with mother and/or father born in other country. Sources: Göteborg Stad (https://goteborg.se/wps/portal/enhetssida/statistik-och-analys/goteborgsbladet/hamta-statistik)			

The people of primary focus for this case study are a) persons representing the two largest immigrant groups living in the North-East suburbs of Gothenburg, i.e., people with Somali background (see table 21), and b) ethnic Swedes that live in the same neighbourhoods.

Table 21. Five most common ethnical backgrounds of people living in Gothenburg's North-Eastern suburbs.

2020	Number	Percent
Swedish	54,236	51.0
Iraqi	7,318	6.9
Somali	5,846	5.5
Syrian	3,858	3.6
Bosnian & Herzegovinian	2,907	2.7

The number of death tolls have generally been higher in immigration dense suburbs in Sweden, and so also in the ones surrounding Gothenburg. In fact, the north-eastern suburbs were more affected by

the pandemic than other immigration dense suburbs in Gothenburg. Residents with Somali background was the group with highest mortality in COVID-19.

The Public Health Agency has, on its website, published information and videos about COVID-19 in 19 different languages. In addition, the PHA provided a telephone line with information in 12 different languages. Several other central public authorities, such as the Ministry of Foreign Affairs, the Ministry of Health and Social Affairs, the Swedish Civil Contingency Agency and Kriskommunikation.se also offered information in many languages, addressing primarily ethnic minorities in Sweden but also more temporary visitors. In some migrant dense suburbs, information about the pandemic and about vaccination was distributed among the residents by volunteers with a foreign background.

A report from the Swedish Public Health Authority (PHA) in May 2021 revealed that vaccination coverage (the proportion of people who have been vaccinated) among people 80 years and older differed depending on where one was born. While elderly people born in Sweden had a vaccination coverage of 91%, the corresponding rate for people born in the Middle East was 61%, born in North-Africa 59%, and born in other parts of Africa 44%. In June the same year the PHA presented a demographic description of confirmed incidence (number of deaths per 100 000 persons) in COVID-19 in Sweden also related to place of birth. The incidence for people born in Sweden was 189, in Iraq 600 and in Somalia 660. In Gothenburg, the average rate for at least one vaccination in summer 2021 was 74%, in two of the most immigration dens suburbs the corresponding rates were 52% and 61%. This suggests that policy responses implemented by Swedish authorities and health care system have discriminated some of the ethnical minorities living in the country.

People with immigrant background in general and the Somali population is underrepresented in local and national government, even if there are examples of politicians with Somali background in local and national politics. Over time has representation of politicians with immigrant background increased. One explanation for the underrepresentation is due to the large proportion of immigrants living in large cities, where the number of seats in local government/parliament are fewer compared to smaller municipalities.

COVID-19 Vaccination

Special vaccination units were posted in Bergsjön and Hjällbo by the Gothenburg municipality that both offered information on the vaccines and COVID-19 vaccinations. Also, cultural mediators were assigned by the medical center and by the municipality administration in Angered (North-East district) to provide information about the corona pandemic to residents that speak little or no Swedish at all. The cultural mediators have a foreign background but have lived in Sweden for many years. They provided information on how to protect oneself from being infected by the corona virus and how to reduce the spread of the infection in Arabic, Kurdish/Sorani, Persian/Dari, Somali and Tigrinia.

Neckarstadt-West, Schönau, and Jungbusch/Innenstadt, Mannheim (SINUS)

- Total residents (wohnungsberechtigte Bevolkerung):
  - City of Mannheim: 324,009
  - Neckarstadt-West: 20,742
  - Schönau: 12,420
  - Jungbusch/Innenstadt: 31,255
- Migration-background residents of:
  - City of Mannheim: ca. 147,000
  - Neckarstadt-West: ca. 14,000
  - Schönau: ca. 5,900

- Jungbusch/Innenstadt: ca. 19,000

Mannheim, officially known as the University City of Mannheim, is the second largest city in the German state of Baden-Wurttemberg with a total of about 320,000 inhabitants (Statistischer Bericht Mannheim N° 3/2021). The city is divided into 17 districts, each of which is governed by a district administration. The distribution of inhabitants ranges from 5,673 in the district of Friedrichsfeld to 34,252 in the district of Neckarstadt-Ost. However, Innenstadt/Jungbusch with 6,882 inhabitants/km² and Lindenhof with 5,811 inhabitants/km² are the districts with the highest population density (Stadt Mannheim Kommunale Statistikstelle, 2020).

The main governmental structure of Mannheim consists of a reigning mayor, a Municipal Council and 17 District Advisory Councils. The mayor is elected by the citizens and operates as the Chairman of the Municipal Council and is Head of the municipal administration. The citizens of Mannheim elect the members of the Municipal Council which then elects the district advisory councils for each district. At the political level is the Municipal Council the most important part, theoretically. It decides about legal regulations, supervises the administration and the mayor, employs municipal staff and determines financial interests. In practice, the mayor is the key actor in local politics (Landeszentrale für politische Bildung Baden-Württemberg, n.d.). Proposals for new laws can be made by the state government, Members of Parliament, or through popular initiatives in Parliament (Landtag von Baden-Württemberg, n.d.).

People with their own migration background find in Mannheim, similar to other cities, a representative for integration and migration with Claus Preißler. As a position with a cross-sectional function, the Commissioner for Integration and Migration is the municipal contact person for all integration and migration-related issues. The field of activity includes conceptual and strategic as well as coordinating and initiating tasks. These include the topics of migration, integration and the shaping of a successful coexistence in a diverse urban society (Stadt Mannheim, n.d.–a).

Furthermore, persons with migration experience are represented by the Migration Advisory Board of the City of Mannheim. Since 2000, this has been the official representative body of Mannheim residents with a migration biography vis-à-vis the city council and the city administration, and was newly appointed by resolution of the city council on 26.11.2019. It sends individual members as experts to the municipal council and its specialist committees. With the right to speak, to be heard, and to make motions on all integration-related matters in Mannheim, the Migration Advisory Board advises the City Council on the topics of migration and integration. The Advisory Board acts as a driving force and lobby for the interests of Mannheim residents with a migration biography, and is particularly committed to a successful and respectful coexistence. The members do not have voting rights in their function (Stadt Mannheim, n.d.–b).

Unfortunately, an assessment of the strength or evaluation of adequate representation could not be found in the course of the study. No information could also be found on the affiliations of ethnic minorities or the migration backgrounds of the local council members, so limited statements can be made about representation at the local level.

Representation of ethnic minority/migration-background residents differs on the state level and on the national level. According to research by MEDIENDIENST, as of 2021, 15 of 154 members of the state parliament of Baden-Württemnerg have a migration background, making up 9.7% of the entire state parliament (MEDIENDIENST INTEGRATION, 2021a). In comparison, 33.8% of the inhabitants of Baden-Württemberg have a migration background (Statistisches Landesamt Baden-Württemberg,

2020). It should be noted, that the determination of migration background is based on self-reporting. However, on the basis of this data, persons with a migration background are underrepresented at the state level.

At the national level, as of 2021, 11.3% of members of the Bundestag had a migration background. This shows an increase from 8.2% after the 2017 election (MEDIENDIENST INTEGRATION, 2021b). In comparison, a total of or 26.3% of the population as a whole – 21.9 million residents – have an immigrant background (Statistisches Bundesamt, 2022, p. 56). Thus, it is also possible to speak of underrepresentation in parliament at the national level.

Table 22. Sociodemographic characteristics of Neckarstadt-West, Schönau, and Jungbusch/Innenstadt vs. Mannheim (2020).

2020	Neckarstadt-West	Schönau	Jungbusch/Innenstadt	Mannheim
Foreign citizenship	50.2%	25.7%	43.5%	25.8%
Migration background*	68.5%	48.0%	61.5%	45.6%
Population density (persons per km2)	2,071	4,162	6,737	2,207
Living density (average persons per apartment)	2.1	2.0	1.8	1.9
Average duration living in current address	9.1 years	13.3 years	8.7 years	12.2 years
Unemployment (all)	11.0%	10.3%	7.4%	5.8%
Unemployment (foreign citizens)	11.8%	12.9%	9.8%	8.2%
*Inhabitants with a migration background = foreign citizens, naturalized Germans and ethnic German repatriates, and children with at least one parent who migrated to Germany. Sources: Mannheim Statistikatlas (https://web2.mannheim.de/statistikatlas/)				

The city of Mannheim regularly publishes COVID-19-related communications in German, simplified German, and English. For multilingual information, the Ministry of Social Affairs, Health and Integration of the State of Baden-Württemberg maintains a hotline by which questions about COVID-19 can be answered in English, Russian, Arabic, and Turkish. The state of Baden-Wuerttemberg also provides an online vaccination campaign website (https://www.dranbleiben-bw.de/#informationen) available in German, Romanian, Turkish, Arabic, French, Russian, and English.

Neither the city of Mannheim nor the State of Baden Württemberg appears to have prioritised creating information products specifically targeted at migration-background residents. Rather, the focus has been on creating a single, consistent set of information products that are then translated into different languages. However, some ad-hoc campaigns appear to have specifically targeted migration-background residents. For instance, in March 2021, a video campaign was launched under #ichlassemichimpfen (#Iwillgetvaccinated), which included videos focused on people with a migration

background. In short video clips, Mannheim residents with a migration biography call for vaccination against COVID-19 and briefly explain the importance of vaccination for combating the pandemic (Stadt Mannheim, 2021).

Mannheim publishes the incidence figures for the city every day (https://www.corona-in-zahlen.de/landkreise/sk%20mannheim/). The city also maintains a daily breakdown of the total infection and lethality rate as well as occupancy of COVID-19 patients treated with intensive care and their share of the total available intensive care beds. Sociodemographic variables, however, are only provided in the form of a breakdown of age and gender (w, m, d). There are no other variables.

As of 02/21/2022, the official website of the City of Mannheim records a total of 49,932 Corona-infected persons, corresponding to 2,031.5 cases per 100,000 inhabitants, and 427 deaths (Stadt Mannheim, 2022). In February 2022, the most-affected districts were Schönau and Käfertal (Stadt Mannheim, 2022). As of February 2022, Mannheims's course is close to the nationwide pandemic course of 1,346.8 per 100,000 inhabitants. However, when considering this indicator, Baden-Württemberg still ranks 3rd among the German states and only performs well when considering the examples of Bavaria with 1,789 and Brandenburg with 1,656 infections per 100.000 inhabitants (statista, 2022). Schleswig-Holstein with 762 and Bremen with 845.6 infections per 100.000 inhabitants represent the federal states in which the pandemic was least severe.

Unfortunately, there are no quantitative data on the incidence of corona among people with an immigrant background. The nationality of those infected or their reason for traveling are not recorded, so that scientific verification is not even possible. It is also a fact that the German Hospital Association generally has no corresponding figures on patients with a migration background. It appears that there is also no representative data available in Germany on the question of whether migrants are more likely to contract COVID-19. According to Aleksandra Lewicki's evaluation, numerous research findings indirectly suggest that people with a migration history are more affected by COVID-19 because they are more frequently exposed to the most important risk factors for COVID-19 disease. For instance, people with immigrant backgrounds are more likely than average to work in jobs that require a lot of social contact. They are also more likely to live in high-density neighbourhoods. As a result, they are exposed to a higher risk of infection overall. For many of them, the living conditions - according to social scientists - have a negative impact on their health with more frequently occurring pre-existing diseases. So far, however, there is no representative data to confirm that people with a migrant background are at higher risk of COVID-19 disease than people without a migrant background for other reasons (Lewicki, 2021).

It is generally recognised, that socially disadvantaged, ethnicized and racialized people are more frequently affected by infectious diseases in general, as well as the ancillary impacts of such diseases. The course of their disease is also often more severe, as they live in comparatively poor housing and working conditions and have limited access to healthy food, exercise and recreation (Bailey et al., 2017). However, due to the lack of data in Germany, only the general infection rate of Corona, together with the mortality rate per age group, can be used to draw rough conclusions about the affectedness of people with a migration background. In this context, contextual factors that make people with a migration background much more likely to be infected can be attributed to life circumstances that are also attributable to racist structures. For example, ethnicized or racialized people are more likely to work in trade and in manufacturing or manufacturing or processing industries or provide personal services (Plümecke et al., 2021). Lewicki suggests that the reasons for any heightened case rates do not lie in supposed cultural traits such as large weddings or visiting relatives abroad – after all, people

without a migration background have also gone on vacation, for example to Ischgl, or celebrated festivals (Lewicki, 2021).

No secondary data could be found on overall impacts on the health of migration-background residents of the target neighbourhoods of Mannheim, beyond viral infection. Some questions will hopefully be answered through the interviews (e.g., accessibility of services). Regarding other data points, SINUS will reach out to the local statistical authorities; however, it is unclear what ethnically disaggregated data has been collected.

In mid-March 2020, the Baden-Wuerttemberg Ministry of Health decided to cancel all events with more than 1,000 participants. The state government and the federal government ordered the shutdown of restaurants, sports, leisure and cultural facilities as well as non-essential retail business on March 17. On the 3rd April 2020, it was prohibited to visit certain public places and fines for violation of the measures were established. The city of Mannheim decided to cover Elternbeiträge for the month of April 2020 on April 7 and also introduced curfew restrictions in facilities for people with care and support needs. The Ministry of Health issued the decree on quarantine measures for incoming and returning travelers from abroad in mid-April. As of 27.04.2020, masks were mandatory in many public places in Mannheim. The first re-openings began in early May 2020, and as of May 18, almost all recreational facilities, parks, restaurants, service businesses and stores reopened. From the beginning of June, offers of children's and youth work were possible again and on June 16, outdoor swimming pools opened with restrictions. At the end of June, the state government decided to ease restrictions on visits to inpatient care facilities and day care facilities.

Due to once again rising COVID-19 case numbers, mandatory testing for travelers returning from high-risk areas was introduced on August 8, 2020. Mannheim limited the number of participants in private celebrations at the beginning of October 2020. A city program also provided pandemic support for clubs and Mannheim sports associations. Also added to the measures was a ban on accommodation for travelers from hotspots within Germany. A new Allgemeinverfügung regulated quarantine orders for schoolchildren from Oct. 21, 2020. On November 2, 2020, most sports, cultural and recreational facilities were forced to close again, with educational institutions remaining open for the time being. Visits to Mannheim hospitals were banned in mid-November. In an Allgemeinverfügung of 03 December 2020, curfews and protective measures for care facilities, the shutdown of public and private sports facilities for school sports and a ban on events were decided. From mid-December, curfew restrictions were applied throughout the state and schools, daycare centers, and youth centers closed. Strict rules applied for New Year's Eve.

After the introduction of vaccines in January, restrictions were once again loosened progressively. The nightly curfew was lifted on February 19, 2021. In the beginning of March 2021, the cultural office adapted a new Förderlinie, regarding the exceptional situation in the event sector. The state's new Rechtsverordnung allowed openings in several areas and loosened contact restrictions if the 7-day incidence per 100,000 inhabitants was less than 100.

On April 26, 2021, schools and kindergartens had to close again and tougher restrictions on funerals were introduced. As the vaccinations rates increased, the number of new cases decreased, leading to the re-opening of many facilities in late May 2021. An important milestone was the abolition of the vaccination prioritization in Baden-Wuerttemberg at COVID-19 vaccination centers on June 7, 2021.

In many areas of public life, the 2G rule was introduced from mid-October 2021. According to a general order, from November 17, 2021, kindergarten children were ordered to be tested three times a week.

On December 16, gatherings in public spaces were banned. For New Year's Eve, alcohol was banned, pyrotechnics could not be burned and no more than 10 people were allowed to gather.

At the beginning of 2022, the Covid-19 cases started to rise dramatically, but the sickness got less lethal. Many quarantine and isolation rules were changed. Infected people now only had to spend a minimum of seven and a maximum of ten days isolating themselves. The same rules applied to contact person who now only had to quarantine for seven days and students even only for five days if they got tested negative.

Extensive secondary data specifically on disruptions to everyday life of migration-background residents in Mannheim could unfortunately not be found. We will address these questions during the interviews.

On a very general level, the economic impact of the pandemic on Germany can be assessed based on GDP growth rates. Unfortunately, GDP statistics disaggregated by state and city will not be available until March and July 2022, respectively (https://www.statistikportal.de/sites/default/files/2021-12/1_GV-AKVGRdL-Nov21-StatPortal_2.12.2021.pdf).

Table 23. impact of COVID-19 on GDP in Mannheim vs. Germany.

Time period	Mannheim*		Germany**	
	Euro (billion)	Unadjusted growth (%)	Euro (billion)	Unadjusted growth
2021 Q4	TBD	TBD	940.5	6.8
2021 Q3	TBD	TBD	915.4	7.3
2021 Q2	TBD	TBD	866.1	11.9
2021 Q1	TBD	TBD	848.7	-1.3
2020 Q4	TBD	TBD	880.3	-1.3
2020 Q3	TBD	TBD	853.4	-2.7
2020 Q2	TBD	TBD	774.1	-9.2
2020 Q1	TBD	TBD	859.8	0.8
* Source: Statistisches Bundesamt (https://www.destatis.de/EN/Themes/Economy/National-Accounts-Domestic-Product/Tables/domestic-product-q-gdp.html); TBD = Unknown data from Federal or local statistical office				

Additional insight can be gained through an examination of economic relief measures implemented on the federal, state, and municipal levels. As of March 25, the self-employed, small businesses and freelancers throughout Germany could apply for emergency financial aid (Soforthilfe). Baden-Wuerttemberg provided 100 million euros to municipalities as a support network for families during the Corona crisis on March 27. In July 2020, Mannheim decided that Betreuungsgebühren (childcare fees) were waived for June if Notbetreuung (emergency care) was not used. The City established the Corona- Soforthilfe Programm II in mid-July. Similar economic relief measures continued intermittently

throughout the pandemic: for instance, at the end of January 2021, the city decided that Kita-Gebühren should be waived for January. Kinder-Betreuungsgebühren were also partially waived for the month of February 2021, as well as from March to May 2021.

All such measures would have impacted the target population of migration-background residents of Mannheim, though the comparative degree of impact remains to be determined.

Anecdotally, it is likely that members of the target population are less able to work from home, and may have suffered from reduced ability to work during some phases of the pandemic, and/or been forced to make a trade-off between working regularly and being exposed to infection. These questions will be addressed during the interviews.

The city of Mannheim publishes news about dealing with COVID-19 on its website (https://www.mannheim.de/de/corona) at regular intervals. These include basic statistics (e.g., current case numbers, number of total detected corona cases, and daily fatalities), as well as news about concrete measures taken by the authorities. These communications are available in German, simplified German, and English. For multilingual information, the Ministry of Social Affairs, Health and Integration of the State of Baden-Württemberg maintains a hotline by which questions about COVID-19 can be answered in English, Russian, Arabic, and Turkish.

In March 2021, a video campaign was launched under #ichlassemichimpfen (#Iwillgetvaccinated), which included videos focused on people with a migration background. In short video clips, Mannheim residents with a migration biography call for vaccination against COVID-19 and briefly explain the importance of vaccination for combating the pandemic; in one case, the participant even gets vaccinated live in front of the camera. The participants speak different languages and hail from different contexts: they include doctors and their staffs, leaders of religious communities and migrant associations, and private individuals known in the communities (Stadt Mannheim, 2021).

The state of Baden-Wuerttemberg also provides an online vaccination campaign website ((https://www.dranbleiben-bw.de/#informationen) available in different languages (German, Romanian, Turkish, Arabic, French, Russian, and English). This website offers general reasons to get vaccinated, information on vaccination for kids and youth, information on vaccinations for pregnant persons, and information specifically on booster vaccinations. Furthermore, it also provides practical assistance in the form of a list of primary care practices and vaccination centres, which can be filtered for opportunities to vaccinate children and other criteria. In addition to offers to follow the campaign on social media, the page also cites testimonials from persons who have already been vaccinated and have agreed to serve as the face of this campaign. Among them are prominent local figures, as well as ordinary citizens.

At the national level, the Integration Commissioner of the State Government compiles all foreign language information from the state government on COVID-19, including resolutions from the state government and the states, travel information, and information on vaccination. In addition, a flyer is available in various languages (Presse- und Informationsamt der Bundesregierung, n.d.).

This being said, targeted efforts to reach ethnic minorities and citizens with a migration background in the city of Mannheim appear to have been the exception rather than the rule, even after it became known that this group tends to a particular vulnerability to COVID-19 and some of its attendant social impacts. In both Mannheim and the state of Baden-Württemberg, a more general approach was usually taken: public health authorities usually tried to reach all citizens with their tools. This

generalized communication approach is evident on the websites and other channels used by the public health authorities in Mannheim: there are relatively few channels or messages targeted at one or another certain group of citizens. Instead, the focus is on keeping information on current conditions and measures as barrier-free as possible, in order to make this information accessible to a large number of people. There is limited evidence of proactive action on the part of the City of Mannheim with regard to ethnic minorities and citizens with a migration background.

Some informational resources were targeted specifically at migration-background residents. However, other specific measures do not appear to have been taken to focus specifically on individual groups, for example, to reach citizens with an immigrant background. On the municipal and state levels, a focus has been placed on making a single set of consistent materials and services accessible to all target audiences (e.g., via translation and interpretation).

COVID-19 Vaccination

Vaccinations began in Germany on December 27, 2020, and one day later in Baden-Wuerttemberg. On January 5, 2021, the vaccination center in Mannheim went into operation. In addition, FFP2 masks were issued to Grundsicherungsempfänger from the end of January 2021. In mid-February 2021, the city enabled every employee in schools or kindergartens to get Covid-19 tested regularly. The city allowed many providers to conduct free rapid tests beginning in mid-March 2021. An important milestone was the abolition of the vaccination prioritization in Baden-Wuerttemberg at COVID-19 vaccination centers on June 7, 2021. From mid-July 2021, people could get vaccinated without an appointment at a vaccination center.

There is no current data on the vaccination rate of the city of Mannheim. The most recent document is from the Ministry of Social Affairs of Baden-Württemberg, dated 21.02.2022, and gives a vaccination rate of 72.6 in those vaccinated twice and 51.1 in those with booster vaccination (Sozialministerium Baden-Württemberg, 2021). Unfortunately, there is no information on the tests carried out at the level of the rural and urban districts.

In reference to the new nationwide campaign undertaken by the 2022 federal government, a representative of a migrant association from the Rhine-Neckar area argued that vaccination scepticism has little to do with language and culture, as basic information reaches communities despite language barriers (SWR Aktuell, 2022). However, extensive secondary data could not be found. This topic will be addressed during the interviews.

See Appendix A6 for the complete SES framework, timeline, and location of UGOT (Sweden) & SINUS' (Germany) case study.

3.7 KEMEA: Greece

3.7.1 Overview & Timeline

The Greek case study will mainly emphasize on a regional and local scope. This study will emphasize on target groups in Attica, Athens. Despite the targeted scope, a national approach will also be sought by including NGO and Governmental representatives, LEAs and vulnerable populations nationwide if applicable, particularly taking into considerations COVID-19 related restrictions and availability.

In the Greek case study, we aim at addressing how perceptions have been altered from target groups towards LEAs and vis versa, therefore we consider the core variables of: perceptions, policing, and trust of vulnerable populations, as well as the role of LEAs and the impact of the pandemic to their mental health. We intend to understand the dynamics between vulnerable populations, NGO & Governmental representatives and LEAs interaction and communication and how COVID-19 influenced their relations, particularly emphasizing on measure implementation in order to assess compliance rates.

The Greek case study intends to utilize a variety of data to conduct the relevant research. In particular, the main objective is to gather and further assess the governmental and NGO responses that were introduced since the outbreak of COVID-19 pandemic and how communication was conducted towards vulnerable population on a regional level (Athens) and national level. The Greek case intends to include a concise baseline section in regards to responses and communication which will act as a research base for the enhanced research to assess perceptions, trust and compliance rate which will be conducted via targeted questionnaires. KEMEA aims through data collection to identify and conduct an analysis of the relevant responses and inner-societal structures in order to outline differences and commonalities within the national, regional and local level.

As it has been observed in relevant COVINFORM Deliverables, the governmental structure in Greece is based on central-authority with a top-down approach. The main actors in decision making and policy process within Greece are the main governmental representatives, such as the Prime Minister, Ministers and healthcare experts who have mainly adopted a consultant role during the pandemic. There are social, economic, legal and cultural factors that may be taken into consideration in regards to vulnerable populations, particularly Roma, Greek Muslims, Refugees and Migrants. The Greek COVID-19 case intends to encompass all considerations relevant to the aforementioned groups. In addition, it is important to emphasize on the means of communication that have been utilized and how they have impacted trust and compliance rate of our target groups among the pandemic waves. The Greek case study will encompass all means of communication utilized prior and post pandemic. The Greek case study research which factors and variables influenced perceptions and communications in-between our target groups. The Greek case study will aim in researching on the communication of measure implementation.

The Greek study case intends to research three separate periods:

- Baseline (January 2019 to January 2020)
- During initial outbreaks, lockdowns and vaccination rollout (January – April 2021) - with clear distinction of the COVID-19 relevant waves in Greece
- Post-vaccination and current situation (till the end of February 2022) – onward (2022).

Communication, trust and compliance rate has likely been influenced by the pandemic phases and infection rate as well as the vaccination availability. The baseline section of the Greek case aims to

assess the first two aforementioned sections, whereas the empirical research will attempt to illustrate and analyse the current situation and onward.

3.7.2 Characterization of vulnerable target populations

The Greek case study aim to include Law Enforcement Agencies such as the Hellenic Police, representatives from the Hellenic Government such as the Ministry of Migration, External Affairs, Justice and Civil protection among other, as well as, Non-governmental agencies such as The Smile of Child (Hamogelo to paidiou) and vulnerable populations. Vulnerability is interpreted from a socio-economic and potentially a health-related, as per the general approach adopted in COVINFORM. The case study in Greece intends to include socio-economic vulnerable citizens, minorities, migrants, refugees who have been immensely negatively impacted by COVID-19.

The Greek case study aims at including a wide range of community members – it intends to have participants of both genders, from all ethnic backgrounds, with an age limit of 18 years old to elderly citizens, however, the demographic groups emphasize on vulnerable populations such as Minorities and Employees at Law Enforcement Agencies as well as Governmental and NGOs.

- Elderly vulnerable citizens and their social support network (e.g., visiting relatives)
- Minorities such as refugees, migrants, Roma communities, Greek-muslims, socio-economic vulnerable citizens.
- Governance body (e.g., chief administration of LEAs, Governmental Agencies and NGOs)
- Employees in LEAs, Governmental agencies and NGOs (e.g., professional health workers, Law enforcement agents, social service staff, etc.)
- Employees in local, regional and national responsibilities and scope (i.e. Senior LEA officers, lower-ranking officers etc)

COVID-19 has had a severe impact in Greece, as 1,097 infections per 100K people reported last 7 days according to open sources (Reuters, n.d.). Moreover, previous last week, Greece reported approximately 23,585 doses administered each day (ibid). It is important to note that Reuters draws sources from two main primary sources: The Official Government Site (Gov.gr) and The National Organization of Public Health (EODY).

Moreover, in a recent study by Vatavali et al, titled “Impact of COVID-19 on Urban Everyday Life in Greece. Perceptions, Experiences and Practices of the Active Population”, “women, people with disabilities, precarious workers, poor people, and ethnic minorities” to be significantly more vulnerable that the average population (Vatavali et al, 2020).

See Appendix A7 for the complete SES framework, timeline, and location of KEMEA’s case study (Greece).

3.8 SWANSEA: Wales

3.8.1 Overview & Timeline

The study takes place in the organisational and territorial setting of the Swansea Bay University Health Board. The level of scale is the work and living spaces of hospital nurses (BAME overseas qualified nurses), which includes the hospital, their house, their spaces of travel and their leisure. It also includes the imagined spaces of their home country (i.e. the Philippines and Caribbean).

The study examines the various socio-cultural factors shaping the experiences of COVID-19 among BAME migrant nurse populations. Focus on individual behaviours and experiences in the context of individual lives and geographies of these nurse lives, which includes the hospitals where they work, their houses in Wales, their imaginary geographies of their origin countries, and their travels between hospital and home and their leisure spaces. Dimensions that are part of this case study include different kinds of exposure to COVID-19, intersected with different forms of vulnerabilities and resilience that stem from: race, gender, household composition and housing conditions, daily activities, access to protective measures at work and outside work, legal allowances related to (a lack of) citizenship, accessibility to various forms of care and support prior to, during, and after infection with COVID-19 (including "long-covid").

Timeframes will focus on the different waves of the variants of concerns (VoC) as recognised in Wales:

- Baseline: Before the pandemic's onset (2019)
- Period 1: March – July (first lockdown in Wales: wild variant/Wuhan strain)
- Period 2: July – October (relatively quiet period)
- Period 3: October – April 2021 (Firebreaker/Beta strain and post-Christmas/Winter 2021 lockdowns/Delta strain)
- Period 4: April 2021 – December 2021 (relatively quiet period in terms of restrictions)
- Period 5: December 2021 – April 2022 (Omicron wave)

3.8.2 Characterization of vulnerable target populations

BAME overseas qualified nurses who have been working in a South Wales hospital during the COVID-19 pandemic: The study engages with this group as these people are underrepresented and vulnerable demographically in terms of ethnicity, lower socio-economic status, immigration status, family and friends in another country, as well as have experienced a tremendous amount of stress, abuse, and fatigue during the pandemic both at the workplace and outside it. These issues will be address in our case study as they reflect the effects of national and local government and community responses. It also includes the inequalities they have been facing at the workplace (i.e. lower wages, more precarious work contracts, and fewer migrant nurses in managerial positions) and differences in workplace regulation per health board area and hospitals.

- Target sample: Between 8 and 12 BAME overseas qualified nurses
- Socio-demographic information: gender, ethnicity, age, disability, religion, country of origin, family history/consistency, career in origin country, vaccination uptake, COVID-19 illness experience

3.8.3 Characterization of identified systems

Table 24. Baseline and target population indicators of SWANSEA's case study.

Baseline	Target population difference
COVID-cases brought to hospitals in Wales	COVID-cases brought to Swansea Metropolitan Area hospitals
New COVID-cases emergent from infection in hospitals in Wales	New COVID-cases emergent from infection in Swansea Metropolitan Area hospitals
Proportion of staff off ill in hospitals in Wales	Proportion of staff off ill in Swansea Metropolitan Area hospitals

Proportion of BAME staff working in hospitals in Wales	Proportion of BAME staff working in hospitals in Swansea Metropolitan Area hospitals
Level of PPE provision for staff and patients in hospitals in Wales	Level of PPE provision for staff and patients in hospitals in Swansea Metropolitan Area hospitals
Number of incidents/complaints made in association with a nurse's white skin colour in hospitals in Wales	Number of incidents/complaints made in association with a nurse's Black or Brown skin colour in hospitals in Wales
Proportion of immigrant/black and brown nurses working in hospitals in Wales	Proportion of immigrant/black and brown nurses working in hospitals in the Swansea Metropolitan Area
Proportion of nurses living under the poverty line in Wales	Proportion of nurses living under the poverty line in the Swansea Metropolitan Area
Proportion of white Welsh and British nurses living under the poverty line in the Swansea Metropolitan Area	Proportion of immigrant/black and brown nurses living under the poverty line in the Swansea Metropolitan Area
Proportion of white Welsh and British nurses living under the poverty line in the Swansea Metropolitan Area (or in Wales)	Proportion of immigrant/black and brown nurses living under the poverty line in the Swansea Metropolitan Area (or in Wales)
Proportion of white Welsh and British nurses living in communal living in the Swansea Metropolitan Area (or in Wales)	Proportion of immigrant/black and brown nurses living in communal living in the Swansea Metropolitan Area (or in Wales)
Proportion of white Welsh and British nurses with registered mental health problems in Wales	Proportion of immigrant/black and brown nurses with registered mental health problems in Wales
Proportion of nurses who worked within their pre-pandemic specialism and at their pre-pandemic level of seniority during the pandemic in Wales	Proportion of nurses who worked within their pre-pandemic specialism and at their pre-pandemic level of seniority during the pandemic in hospitals in the Swansea Metropolitan Area
Proportion of white Welsh and British nurses who live within a 50 miles radius of their family	Proportion of immigrant/black and brown nurses who live within a 50 miles radius of their family
Proportion of white Welsh and British nurses who indicate language as causing problems in their work	Proportion of immigrant/black and brown nurses who indicate language as causing problems in their work

Table 25. SWANSEA's case study secondary and primary data to be collected by variable and indicator.

Variables	Indicators	Secondary data	Primary data
Measures to stop COVID-19 from entering hospitals	Hygiene procedures at the hospital door (amount and kind)	What rules for entering the hospital did they have in place at the various stages of the pandemic	How were these rules enforced and followed up on and how safe did it make BAME overseas qualified nurses feel at these stages and with pandemic time passing, and do they remember particular incidences
Measures to stop the spread of COVID-19 within the hospital	Hygiene procedures for trespassing staff and patients at the boundaries of COVID with non-COVID	What rules for entering and leaving COVID-19 wards did hospitals have in place at the various	How were these rules enforced and followed up on, how safe did it make BAME overseas qualified nurses feel at these stages

	hospital wards (amount and kind)	stages of the pandemic	and with pandemic time passing, do they remember particular incidences
Behavioural regulations for hospital staff to avoid getting infected and spreading the virus to colleagues and hospitalised patients outside the hospital.	Isolation procedures (amount and kind)	What regulations did hospitals impose on nurses outside working hours and off hospital premises; what compensation of illness was made available to them	How were these regulations enforced and followed up on by the hospital, by nurses, doctors, and other hospital staff; how did BAME overseas qualified nurses appreciate them; did nurse feel like they added a sense of safety and altered their living condition
Nursing staff organisations across COVID and non-COVID wards	Workforce distribution according to specialism and decision-making hierarchy (relative expertise, fit of specialism, supervision, exchange procedures from COVID to non-COVID wards) Anti-bigotry policies and practical follow-through, and complaint procedures	Reasoning behind rescheduling; amount of nurses being placed in a different ward/institution than before the pandemic, for how long Presence of such policies; amount of complaints raised during the pandemic (in particular regarding racism)	How was such placement in a different ward or institution experienced; could they adapt soon, did they receive sufficient support, for how long did they work in different wards/institutions? Did the nurses feel protected against bigotry; did they feel they were they accurately supported when an incident happened; how have complaints been handled
Shift organisation for nurses (duration and intensity)	Shift duration and organisation of break in the shift and time off outside shifts Procedures of patient attendance Management procedures	Average planned and actual shift duration, regulations for breaks in shifts and time to rest outside shifts; frequency of rule breaches Nurse:patient ratio Manager:nurse ratio per level	Exhaustion felt through shift organisation; sufficiency of breaks and time off work; sufficiency of leisure activities possible Evaluation of one's own care provision to patients Evaluation of management
Organisation of nursing training for nurses who has not yet qualified according to Welsh standards.	Adaptation to COVID care in the hospital (circulation of placements)	Level of disruption to formal training schedule (regulation of adaptations to training)	Experience of nurse training

	Supervisory arrangements	Supervisor:nurse trainee ratio per level	Evaluation of supervision
Living conditions for staff in COVID times	Housing arrangements (communal living, children/family present, organisation of meals/childcare) Travel arrangements (distance between the house and the hospital, public/private, financial aspects) Arrangements for coping strategies (offer of therapy, privacy, internet connection, leisure possibilities)	Number of adults and children sharing an address (and number of bedrooms available) Availability childcare Kind of transport between house and hospital, costs Availability of formal forms of therapy, amount of free time to spend on leisure	Experience of living situation in terms of community feel, mutual support, shared tasks and chores, childcare quality Experience of own and others' safety during the travel, impact on personal budget Sufficiency of support network, possibilities to stay in touch with family/friends in home country, do social and leisure activities
Immigration/residency/citizenship status	Assimilation, banks/companies, and access to institutions, Disruption to acquiring immigration documentation: VISA, driving licence, and other formal administration needed to live in Wales. Disruption to acquiring other administrative things needed to live in Wales: bank account, NI number, housing/address, GP registration, UK phone number, utility company organisation)	Data of closures of government vital services, businesses and vital procedures/products	Narrative experiences of Black and Brown nurses who moved to Wales (or UK) shortly before or during the pandemic.
Family situation uncertainties	Disruption to moving family over to live with the immigrant	Data of closures of immigration services	Narrative experiences of Black and Brown nurses who moved to Wales (or

	who works in healthcare.	regarding family reuniting	UK) shortly before or during the pandemic.
Language proficiency	Formal level certification acquirement, Professional and social use of language and associated jargon in hospital and care settings	Data on average formally recognised language proficiency	Narrative experience of Black and Brown nurses who work in healthcare organisations in Wales

See Appendix A8 for the complete SES framework, timeline, and location of SWANSEA's case study (Wales).

3.9 MDI & TRI: England

3.9.1 Overview & Timeline

This case study of England (national case study) focuses on members of the hard-to-reach communities to examine the extent to which the official, government, and health authorities' COVID-19 messages reached members of minority groups. It explores the interplay between the mainstream COVD-19 narratives and alternative models of communication during the pandemic.

A team of Media Diversity Institute researchers will situate government and civil society organizations communication strategies and practices within daily experiences of hard-to-reach communities to identify the ways isolated social groups have engaged with the pandemic news. Using journalistic interviews as the primary method of collecting information, and thematic analysis (Brown & Clark 2012) of the actions taken to disseminate and process information, as well as prevent misinformation and the spread of conspiracy theories. The case study will provide an in-depth understanding of COVID-19 communication, its constitutive processes, and the actors involved. It will describe and explain communicative practices related to hard-to-reach communities and crisis communication in order to generate a set of variables that might be useful for designing communicative strategies for dealing with pandemic or, more broadly global crisis.

Our approach in this case study will be two-folded: instead of searching for a representative sample, and trying to go through every ethnicity and every religion in England, we will conduct interviews with people who have a story to tell. Identification and selection of storytellers will be based on the researchers' engagement with the community as journalists and members of civil society organizations.

More than 30 interviews are done, they were video recorded and transcribed. We are in a process of thematic analysis and about to start editing video stories. First draft of analysis to be completed by September, draft chapter to be ready in November.

The overreaching objective of the MDI case study is identification of alternative communication practices developed within hard-to-reach communities as a response and adjustment to pandemic adversity. In our case study, people are foregrounded, rather than subjects of examination – an

approach that encourages research as action. Combining journalistic and academic methods of interview (in-depth semi-structured conversation), visual ethnography, and thematic analysis, the project aims to assess the existing communication practices and assists in developing new forms of crisis communication that follow the idea of an inclusive society, society of all and for all. The visual ethnography – interviews - document experiences of the hard to reach members of the communities with the COVID-19.

3.9.2 Characterization of vulnerable target populations

The focus of our study is hard to reach communities. These are ethnic and religious communities, minority communities who do not necessarily interact only on the ground of their challenges. These ethnic and religious communities, minority communities do not interact only on a ground of their religion or ethnicity but also by being neighbours and brought together by facing additional life challenges. Still, local councils admit that "those groups which are difficult to engage with from an organizational perspective because they do not feel empowered to do so, or due to barriers which may be overcome. (Haringey Council, 2021).

The last available Census data (Office for National Statistics, 2012) profile England as a country of 53,012,456 people, with the majority of people (79,8%) identifying as British. In terms of ethnicity, the largest ethnic group is 'Asian or Asian British' (7.8%), and that includes Indians, Pakistani, Bangladesh, and Chinese; then 'Black or Black British' (3.5%) and 'British Mixed' (2.3%). When it comes to religion, the majority of people in England are Christians (59,4%) or not religious (24.7%), then come Muslims (5%), other religions (2.2%) and Hindi (1.5%). The Government documents often refer to ethnic minorities as BAME (Black and Minority Ethnic) communities that constitute 13.5% of the population. These data are important to consider when looking at the reports on Coronavirus (COVID-19) case rates by socio-demographic characteristic in England (UK Government, 2021).

By selecting members of hard-to-reach communities with a COVID-19 story to tell, we make sure there are a diversity of individuals across different communities. Our case study will provide an in-depth understanding of the COVID-19 communication, its constitutive processes, and the actors involved. It will describe and explain communicative practices related to crisis communication in order to generate a set of factors that might be useful for examining communicative strategies that could be developed for dealing with a pandemic or more broadly global crises.

See Appendix A9 for the complete SES framework, and location of MDI's case study (England).

4 Cross-analysis of Case Studies

4.1 Characterization and Resilience of Systems

This section entails the distribution of variables and indicators identified as determinant for the characterization of the 5 systems of the SES framework being used, while providing a cross-analysis of such hypothesized vulnerability and protective factors per system and target population.

As proposed in the introduction of this document, the goal was to demonstrate that a comparison between systems could be achieved if one uses a comparable framework where equivalent variables can be pinpointed as such, as well as if the dynamic of their interaction and outcomes are defined. As was demonstrated above, all the case studies could be described with the common framework.

Furthermore, despite being diverse, the systems description was facilitated by always having in mind the critical functions necessary to their normal functioning. Being the long term care facility of a city in Portugal, or migrant life in a Madrid neighbourhood, and so on, the SES approach helped to define the basic factors which are reckoned to be relevant for each case study's vulnerable target population. from the point of view of the characterization of system considering several different perspectives.

Actor System

Refers to all stakeholders involved, particularly the vulnerable target population (VTP) under study. As people are constantly in relation to one another, it is important to consider other relevant groups of people who interact with the VTP, mostly on a daily basis, as well as those responsible for policy-making targeted at those populations (see Table 26 below).

Table 26. Identified relevant variables within the Actor System per case study.

2nd Level Variables	3rd Level Variables	Case Study Partner, Country
Vulnerable Target Population (VTP)	VTP: Elderly living in LTCFs of Évora	FS, Portugal
	VTP: Migrant communities in Borgerhout	UANTWERPEN, Belgium
	VTP: Health care workers (nurses, physicians, and midwives)	SAPIENZA & UCSC, Italy
	VTP: Migrants from Latin American and African origin residents of Centro, Carabanchel, Usera, Puente de Vallecas and Villaverde (Madrid)	URJC & SAMUR, Spain
	VTP: Female frontline workers in supermarket (SPARs of Vienna)	SYNYO, Austria
	VTP: Ethnic minority/migration-background residents of Östra Bergsjön and Hjällbo (Gothenburg)	UGOT & SINUS, Sweden & Germany
	VTP: Ethnic minority/migration-background residents of Neckarstadt-West, Schönau, and Jungbusch/Innenstadt (Mannheim)	
	VTP: Minorities (e.g., refugees, migrants, Roma communities, Greek-muslims, socio-economic vulnerable citizens)	KEMEA, Greece
	VTP: BAME overseas qualified nurses who have worked in Wales during the pandemic	SWANSEA, Wales
	VTP: Hard to reach communities (ethnic, religious, minority communities)	MDI, England
Other Relevant Actors (OA)	OA: Social Security body	FS, Portugal
	OA: Recruited LTCFs governance body	
	OA: Recruited LTCFs' workers (e.g., health and cleaning)	
	OA: Relatives/visitors of elderly residents in LTCFs recruited	

	OA: Representatives of migrant communities from local-level government and decision makers (City of Antwerp)	UANTWERPEN, Belgium
	OA: Professionals working in (mental) health services: GPs, psychologists, psychiatrists, councillors, etc.	
	OA: Representatives from community-level initiatives and services	
	OA: Federal communication actors	
	OA: Hospitals governance body	SAPIENZA & UCSC, Italy
	OA: Families and support network	
	OA: Members of the local government	URJC & SAMUR, Spain
	OA: Practitioners from local services (first responders, police, firefighters, social workers)	
	OA: Members of NGOs	
	OA: Clients	SYNYO, Austria
	OA: Management personnel	
	OA: Participants' families and social networks	UGOT & SINUS, Sweden & Germany
	OA: Local stakeholders involved in pandemic communication	
	OA: Governmental Agencies (representatives, executives, decision makers	KEMEA, Greece
	OA: Non-Governmental Organizations members	
	OA: Law enforcement agents	
	OA: Doctors, medical staff, and consultants working with BAME nurses	SWANSEA, Wales
	OA: Hospitalised patients and acquaintances (in particular, we're interested in Gypsy Travellers and people with learning disabilities)	
	OA: Hospital management (in particular managers who work with, or whose policies impact, BAME overseas qualified nurses, Gypsy Travellers and people with learning disabilities)	
	OA: Agents of communication in HTRC	MDI, England
Actors' Characterization	Demographic Attributes (e.g., age, gender, ethnicity)	All Case Studies
	Social Attributes (e.g., place of residence, occupation)	
	Economic Attributes (e.g., SES level, income)	

Resource and Unit System

Refers to the context/setting in which VTP live in, as well as the services, resources and conditions that those settings provide, particularly regarding home and work environment (see Table 27 below).

Table 27. Identified relevant variables within the Resource System and Units per case study.

2nd Level Variables	3rd Level Variables	Case Study Partner, Country
Location	Location: City of Évora	FS, Portugal
	Location: City of Antwerp (Borgerhout)	UANTWERPEN, Belgium
	Location: City of Rome	SAPIENZA & UCSC, Italy
	Location: City of Madrid (Centro, Carabanchel, Usera, Puente de Vallecas, and Villaverde)	URJC & SAMUR, Spain
	Location: City of Vienna	SYNYO, Austria
	Location: City of Gothenburg (Östra Bergsjön and Hällbo);	UGOT & SINUS, Sweden & Germany
	Location: City of Manheim (Neckarstadt-West, Schönau, and Jungbusch/Innenstadt)	
	Location: City of Athens (Attica)	KEMEA, Greece
	Location: City of Swansea	SWANSEA, Wales
	Location: England	MDI, England
Surroundings	Size: Social and physical density	All Case Studies
	Characterization of local sites	
	Representation of target community	
Number of Units	Total number of LTCFs	FS, Portugal
	Number of Public vs. Private vs. 3rd Sector LTCFs	
	Number of LTCFs elderly residents	
	Number of Staff working in LTCFs	
	Number of primary care physicians per 10,000 inhabitants	UANTWERPEN, Belgium
	Number of psychologists per 10,000 inhabitants	
	Number of hospitals (public/private)	SAPIENZA & UCSC, Italy
	Number of HCWs	
	Number of households per district	URJC & SAMUR, Spain
	Number of supermarket units	SYNYO, Austria
	Number of supermarket workers	
	Number of hospitals in the Swansea Metropolitan Area	SWANSEA, Wales
	Number of hospitalised patients	

	Number of daily staff	
	Number of COVID-19 wards	
	Number of communication channels	MDI, England
Distinctive Characteristics	LTCFs' access and Availability of resources (e.g., masks, tests, vaccines)	FS, Portugal
	LTCFs' health care services provided	
	LTCFs' living conditions (e.g., space, amenities, equipment)	
	LTCFs' Resilience Plan	
	Living conditions (e.g. green space and amenities)	UANTWERPEN, Belgium
	Health services (e.g., medical appointments, home care, mental health care)	
	Educational resources (e.g., computers, digital devices, internet connection)	
	Access and Availability of resources (e.g., masks, tests, vaccines)	SAPIENZA & UCSC, Italy
	Family composition (partner, children)	
	Living conditions (e.g., space and amenities)	
	Organization of household work (gender division of work, paid services, informal help)	
	Family support network (availability of informal help, paid and unpaid services)	
	Household composition	URJC & SAMUR, Spain
	First Care Units and Social Services Centres availability	
	Access to amenities	
	Access to welfare state provision	
	Work conditions (e.g., type of contract, home office, work load)	
	Communication channels	
	Work conditions (e.g., type of contract, work place ergonomics)	SYNYO, Austria
	Access and Availability of resources (e.g., masks, tests, vaccines)	
	Digital access (e.g., digital devices, internet connection)	UGOT & SINUS, Sweden & Germany

	Type of communication and information channels used (e.g., social media)	
	Access and availability of resources (e.g., PPE, tests, vaccines);	SWANSEA, Wales
	Living conditions of nurses (e.g., private space, shared living facilities, presence of amenities, internet connection, means of travel);	
	Health care services (in the hospitals in general and by nurses);	
	Nurses training programme	
	Management and supervision styles	
	Communication channels used by ethnic and religious communities	MDI, England
	Usage of social media accounts	
	Audience reach for mainstream media	
	Ethnic media landscape	

Governance System

Refers to all entities involved in policy-making that may affect the VTP, by decreeing norms and/or implementing measures in the several different settings of which the VTP is a part and is subjected to. The governance levels are diverse, and particularly in the case of COVID-19 disruptive events, their different layers are of outmost importance (see Table 28 below). The articulation of the different levels of governance (or the absence or even the contradiction between them) will later be further analysed. In the case of vulnerable populations (e.g., the migrants) the existence of specific and informal levels of governance are noteworthy since they can be working against each other.

Table 28. Identified relevant variables within the Governance System per case study.

2nd Level Variables	3rd Level Variables	Case Study Partner, Country
Government Organizations	National Health Directorate (NHD)	FS, Portugal
	Social Security (SS)	
	State LTCFs (National and Évora city)	
	National Crisis Centre	UANTWERPEN, Belgium
	FPS Health	
	Federal government's Consultative Committee	
	COVID Commissariat	
	National Public Health Institute Sciensano	

	Ministry of Health	SAPIENZA & UCSC, Italy
	Regional/local public health authorities (Madrid)	
	Public Hospitals (e.g., Policlinic Gemelli of Rome)	
	Department of Family Policies	
	Local government authorities in charge of social services	URJC & SAMUR, Spain
	National government	SYNYO, Austria
	Local government (Vienna)	
	National Supermarkets	
	Local Supermarkets (Vienna)	
	National central public authorities (Public Health Agency, Ministry of Foreign Affairs, Ministry of Health and Social Affairs, Swedish Civil Contingency Agency)	UGOT & SINUS, Sweden & Germany
	Local government (Gothenburg)	
	Local government (Mannheim)	
	Media (local, national, international)	
	Law Enforcement Agencies	KEMEA, Greece
	Governmental Agencies	
	National Health System (NHS)	SWANSEA, Wales
	Swansea Bay University Health Board	
	South Wales Hospitals	
	UK Home Office Immigration	
	Social Security	
	UK Government	MDI, England
	Local councils	
Private Organizations	Private LTCFs	FS, Portugal
	Private Hospitals	SAPIENZA & UCSC, Italy
	Social media	UGOT & SINUS, Sweden & Germany
	Local housing companies	
	Private institutions	KEMEA, Greece
Non-governmental Organizations	LTCFs of Santa Casa da Misericórdia (3rd Sector)	FS, Portugal
	3rd Sector Organizations	URJC & SAMUR, Spain
	Non-governmental institutions involved in pandemic communication (e.g., health CSOs)	UGOT & SINUS, Sweden & Germany
	Churches and religious organizations	
	NGOs	KEMEA, Greece

	Civil society organizations	MDI, England
Constitutional, Operational & Collective-choice Rules	NHD's standard operating procedures (SOP) for LTCFs (i.e., norms, guidelines, measures, policies)	FS, Portugal
	SS's SOP for LTCFs	
	Internal SOP for Public, Private, and 3rd Sector LTCFs recruited	
	National/federal government norms	UANTWERPEN, Belgium
	Regional government norms (Flemish)	
	Local government norms (City of Antwerp)	
	Ministry of Health (norms governing Public health at the national, regional and sub-regional level)	SAPIENZA & UCSC, Italy
	Regional/local public health authorities (norm governing regional and local public health institution, local COVID-19 impact and norms)	
	Hospitals organization (different settings of hospital organisation depending on public/private funding)	
	Department of Family Policies (norms governing family policies; ad hoc policies established during COVID-19 pandemic)	
	Norms regarding access to social services in migrant-related affairs	URJC & SAMUR, Spain
	Lockdown measures	
	National Supermarket norms	SYNYO, Austria
	Local Supermarket chain norms and measures (hygiene, distancing, social and physical density, ventilation; Vienna)	
	Norms on communication and information strategies (e.g., vaccination, protective measures)	UGOT & SINUS, Sweden & Germany
	Governmental guidelines and policies	KEMEA, Greece
	NHS SOP for hospitals	SWANSEA, Wales
	Hospitals	
	SS's SOP for hospitals	
	Internal SOP of hospitals (e.g., nurse training in Covid-19)	
	UK businesses vital services SOP	
	Guidance, regulation, and legislation about COVID-19	MDI, England

Interaction

Refers mainly to activities, strategies, and initiatives directed at VTP, influenced by the norms set by the governance, according to the resources available, and depending on the actors involved, with a strong focus on communication and information (see Table 29 below).

Table 29. Identified relevant variables within the Interaction System per case study.

2nd Level Variables	3rd Level Variables	Case Study Partner, Country
Communication & Information Distribution	Elderly-targeted National Health Directorate communication campaigns and information distribution (e.g., across traditional and social media)	FS, Portugal
	Elderly-targeted Social Security communication campaigns and information distribution	
	Communication campaigns and information distribution within recruited LTCFs	
	Strategies to promote trust	UANTWERPEN, Belgium
	Strategies to counter the spread of misinformation and fake news	
	Distribute multilingual communication materials	
	Information sharing among HCWs and patients	SAPIENZA & UCSC, Italy
	Communication campaigns (e.g., vaccination)	URJC & SAMUR, Spain
	Public information made available	
	Information distribution within supermarket	SYNYO, Austria
	Lobby communication (e.g., WKO, AK, ÖGB)	
	Communication strategies of stakeholders	UGOT & SINUS, Sweden & Germany
	Information seeking behaviors	
	Communication campaigns (across traditional and social media)	KEMEA, Greece
	Public information distribution to vulnerable and general population	
	Communication campaigns (across traditional and social media	SWANSEA, Wales
	Communication strategies and practices (official, government, and health authorities' COVID-19 messages)	MDI, England
	Crisis communication	
Government Investment	Elderly-related aids (financial, health, social)	FS, Portugal
	Training about COVID-19	UANTWERPEN, Belgium

	Financial investment (e.g., extra budget allocated to solidarity initiatives)	
	Promote safe public spaces	
	Economic aids (including RMI)	URJC & SAMUR, Spain
Monitoring	Contact tracing and referral	FS, Portugal
		UANTWERPEN, Belgium
	Testing capacity, vaccination	UANTWERPEN, Belgium
	Cultural activities participation	
	COVID-19 tests performed	All Case Studies
	COVID-19 vaccines administered	
Cooperation processes	Community initiatives (e.g., food distribution, filling in documents to apply for government assistance, telephone help lines, volunteer to provide everyday life tasks)	UANTWERPEN, Belgium
	Audience-targeted activities	
	Interventions with minors in day care centres	URJC & SAMUR, Spain
	Provision of social services	
Conflicts	Work-life balance (e.g., conflict with co-workers, with staff, with clients, with patients, with family members)	All Case Studies
	Trust levels (e.g., in the government)	

Outcomes

Refers to the impacts of the risk/threat on the VTP, which may belong to a panoply of domains – from health to employment status –, and are a consequence of the interplay between all systems (influenced by the interactions within each own system), as well as allow to understand the changes that occurred and what is responsible/contributes for these changes. As mentioned in the introduction, what makes this approach more detailed than the normal medical syndemic perspective is that the outcomes are viewed as much more than strictum census. As was described above, the outcomes are not only related with COVID-19 issues, but also with other indicators of well-being (see Table 30 below).

Table 30. Identified relevant Outcomes aggregated per domain and case study.

Domains	Variables & Indicators	Case Study Partner, Country
Health	Psychosocial well-being (e.g., distress, social resilience, mood, and loneliness)	FS, Portugal
		URJC & SAMUR, Spain
		SWANSEA, Wales
		MDI, England

	Mental health status	KEMEA, Greece
		UANTWERPEN, Belgium
	Need for mental health services	UANTWERPEN, Belgium
	Access to mental health services	
	Physical and mental health	SAPIENZA & UCSC, Italy
	Work-related stress	SAPIENZA & UCSC, Italy
		SYNYO, Austria
	Satisfaction levels	SWANSEA, Wales
Work	Employment-related changes	UANTWERPEN, Belgium
		URJC & SAMUR, Spain
	Reconciliation of work-life balance	SAPIENZA & UCSC, Italy
	Work environment changes	SYNYO, Austria
	Nurse career progression (e.g. training passed, promotion made, scope of activities widened)	SWANSEA, Wales
Family	Quality of family relationships	SAPIENZA & UCSC, Italy
	Virus transmission in the family	
Perception	Risk perception	FS, Portugal
		SYNYO, Austria
	Levels of trust (e.g., in government, authorities, media)	FS, Portugal
		UGOT & SINUS, Sweden & Germany
		KEMEA, Greece
		MDI, England
	Elderly Covid-19 mental model's evolution	FS, Portugal
	Fear and uncertainty of the future	
	Individual risk perception	SAPIENZA & UCSC, Italy
	Citizens impressions and motivations	URJC & SAMUR, Spain
	Identification with Swedish society	UGOT & SINUS, Sweden & Germany
	Comfort levels with the use of Welsh healthcare jargon	SWANSEA, Wales
Cognitive, Affect & Behavioural	Adoption of public health measures (e.g., mask use, physical distancing, hand disinfection, vaccination); Compliance	FS, Portugal
		UGOT & SINUS, Sweden & Germany
		KEMEA, Greece
	Information seeking habits	

	Communication habits	UGOT & SINUS, Sweden & Germany
	Adoption to vaccination program	
	Dissemination and process of information (countering misinformation, spread of conspiracy theories, best and worst communication practice)	MDI, England
	Individual behaviours of agents of communication in HTRC	
	Community engagement	
Institutional Responses	Resilience Plan adjustment and evolution	FS, Portugal
	Evolution of local-level responses to address mental health issues	UANTWERPEN, Belgium
	Access to welfare state provision	URJC & SAMUR, Spain
	Success rate of Covid-19 measures and communication strategy	KEMEA, Greece
	New communication channels	MDI, England
Epidemiological	Covid-19 infection cases	All Case Studies
	Covid-19 related deaths	
	Success rate of Covid-19 abatement	
	Containment and Health Index	

4.2 COVID-19 Timeline

To access the true nature of a system resilience, one needs to understand the nature of the adaptation to multiple stresses without changing its nature and dynamic. The COVID-19 pandemic is a particularly good case to study from this perspective since it is a crisis that is characterized by the absence of a clearly low point (i.e., where the pandemic is declared as extinct). The true dynamic of a system is shown trough time. The approved timeframe key points agreed between all case studies were meant to capture all the main moments that represent a change in the “macro system” (e.g., vaccines, new variants, etc.) and that have great implications in the constrained and local systems that are under study. Moreover, since we are studying specific communities of concern, the dynamics of time can either accentuate the difference and the negative impacts, or, on the contrary, elucidate the adaptation of the strategies from the governance systems to lessen the impacts felt by those above mentioned communities. Table 31 below depicts the common time points established for each case study according to their country’s COVID-19 situation.

Table 31. COVID-19 timeline phases per case study and time point (T0, T1, T2, T3, and T4) according to each country's situation.

T0	T1		T2		T3	T4	Case Study Partner, Country
Before the COVID-19 pandemic onset (baseline/ control)	During initial outbreak and lockdown		Vaccination rollout		Detection of variants of concern	Current situation	FS, Portugal
2019	March 2020 to May 2020		December 2020 to April 2021		October 2021 to February 2022	March 2022 to July 2022	
-	First phase/ immediate impact (first lockdown)	Second phase	Roll-out vaccines and boosters			The present	UANTWERPEN, Belgium
-	Spring 2020	Summer 2020 to Spring 2021	2021			Spring 2022	
-	Initial lockdown	Pre-vaccine period	Vaccine campaigns roll out		Lockdown	-	URJC & SAMUR, Spain
-	March 2020	July 2020 to December 2020	January 2021 - onwards		June 2021	-	
Before pandemic	Early in the pandemic (e.g., during first lockdown)		During the rollout of vaccines		New variants' waves	Current situation	SAPIENZA & UCSC, Italy
DNS	January 2020 to May 2020		June 2020 - present				
Before COVID-19	First wave (fear)	Pre-vaccination	Through vaccination		Omicron waves	-	SYNYO, Austria
Until March 2020	March 2020 to June 2020	July 2020 to June 2021	July 2021 to December 2021		January 2021 - now	-	
Baseline	Initial spread of the disease		Phase where the vaccine was introduced		-	-	UGOT & SINUS, Sweden & Germany
January 2019 to January 2020	Spring 2020		Winter/Spring, 2021		-	-	
-	During initial outbreaks, lockdowns		Vaccination rollout	Post-vaccination	COVID-19 relevant waves in Greece	Current situation	KEMEA, Greece
-	January 2020 to April 2021		Until the end of February 2022			Onward (2022)	

Baseline: Before the pandemic's onset	First lockdown in Wales: wild variant/Wuhan strain	Relatively quiet period	Fire breaker/ Beta strain and post-Christmas/ Winter 2021 lockdowns/ Delta strain	Relatively quiet period in terms of restrictions	Omicron wave	-	SWANSEA, Wales
2019	March 2020 to July 2020	July 2020 to October 2020	October 2020 to April 2021	April 2021 to December 2021	December 2021 to April 2022	-	
Note: Cells containing the symbol "-" mean that the corresponding time point was not accounted for; DNS = Dates not specified; MDI's missing timeline will be included in the updated deliverable of the present document.							

5 Next Steps: Case Studies' Phase 2

Findings from the field work allow for explicit discussion of major subsystems pertinent to evaluating pandemic outcomes, including: (i) public health analysis, (ii) economic analysis, (iii) sociocultural analysis (bottom-up indicators regarding how individuals and communities were affected by COVID and its lockdowns), and (iv) governmental analysis (top-down indicators regarding how governments executed COVID response, and interfaced with their communities over time).

As was mentioned above, the case studies rely on secondary data sources (important to basically characterize the systems under analysis) and primary data (mainly actors and governance body interviews). The process is under way and to be developed until 2023. Aiming to achieve a consistent data set from the primary data (standardized as much as possible across the different case studies' realities), a set of documents was presented to all partners.

Interview Script Guidelines

The document presented in March 26 aims to provide some guidance regarding the topics to cover in the interviews and how the resulting qualitative data should be aggregated to submit to Factor Social.

The main goals are to understand:

- How the existing vulnerability and the protective factors of the different systems relevant to the target populations interplay with existing vulnerability and protective factors of already vulnerable populations;
- How this interplay of vulnerability and protective factors enhances and/or mitigates Covid-19 impacts;

The main aspects to keep in mind when building the script should be:

- What are the vulnerability factors under study?
- What are the protective factors under study?
- What are the changes throughout the pandemic?

Vulnerability and protective factors relate to the target population and the systems/settings of which they are a part.

The topics to cover will stem from the variables and indicators pointed out in each case study report (SES Framework/matrix), as those are the potential vulnerability and protective factors relevant to each case study target population. See document "WP3_phase2_interview_findings_guidelines".

Survey Data Sample

The document sent to partners on March 7 aimed to attain some degree of standardization across all case studies regarding data analysis and report of descriptive statistics of the target population's samples. It is not meant to be a survey for partners to crudely ask participants, but rather to better serve the coding process.

Each partner should select each variable by carefully considering the importance of each for the characterization of their specific sample. Some variables provided may not apply to all case studies or may need to be adapted according to each country's characteristics. Each case study should state which variables are specific to their target population and delete those which are not applicable. See document "WP3_Sample_Data_Survey_Target_Population_FS_example".

Descriptive statistics should be reported to FS aggregated in tables per target group, accompanied by other relevant input added as text.

Deadlines

Interview findings should kindly be sent to FS until the end of August 2022, as D3.5 is set to be executed until September 2022.

6 Conclusions

Several of the case studies' goals of the current COVINFORM project were discriminated at the beginning of this deliverable: Achieving a consistent way of providing a description of the systems where the vulnerable dimensions and groups become alive and are comparable is one the most complex. The use of the SES framework and the influence of the syndemic perspective is instrumental in achieving those goals. It is important to underline that these perspectives also allow the link between the several dimensions of the project (e.g., governance – WP4; public health – WP5; community – WP6; and information – WP7) which can be also be conceptualize as dimensions in the dynamic of the SES framework. The link with WP2 is not only done with the isolation of the main risk factors that will be presented in the risk assessment vision, but also by describing the process of the different systems' resilience.

Following Figure 12, we can conceptualize resilience as a balance scale, where cumulative system's vulnerability factors tip the scale towards enhanced Covid-19 impacts (negative outcomes), and cumulative system's protective factors tip the scale towards mitigated Covid-19 impacts (positive outcomes). Thus, we can think of the point where the scale balances (fulcrum) as having a stationary position, moving more towards one side or another depending on a given population's characteristics (vulnerability and protective factors) – meaning that the more vulnerable a given population is (i.e., is characterized by a higher number of vulnerability factors), the more exposed will be to Covid-19 impacts.

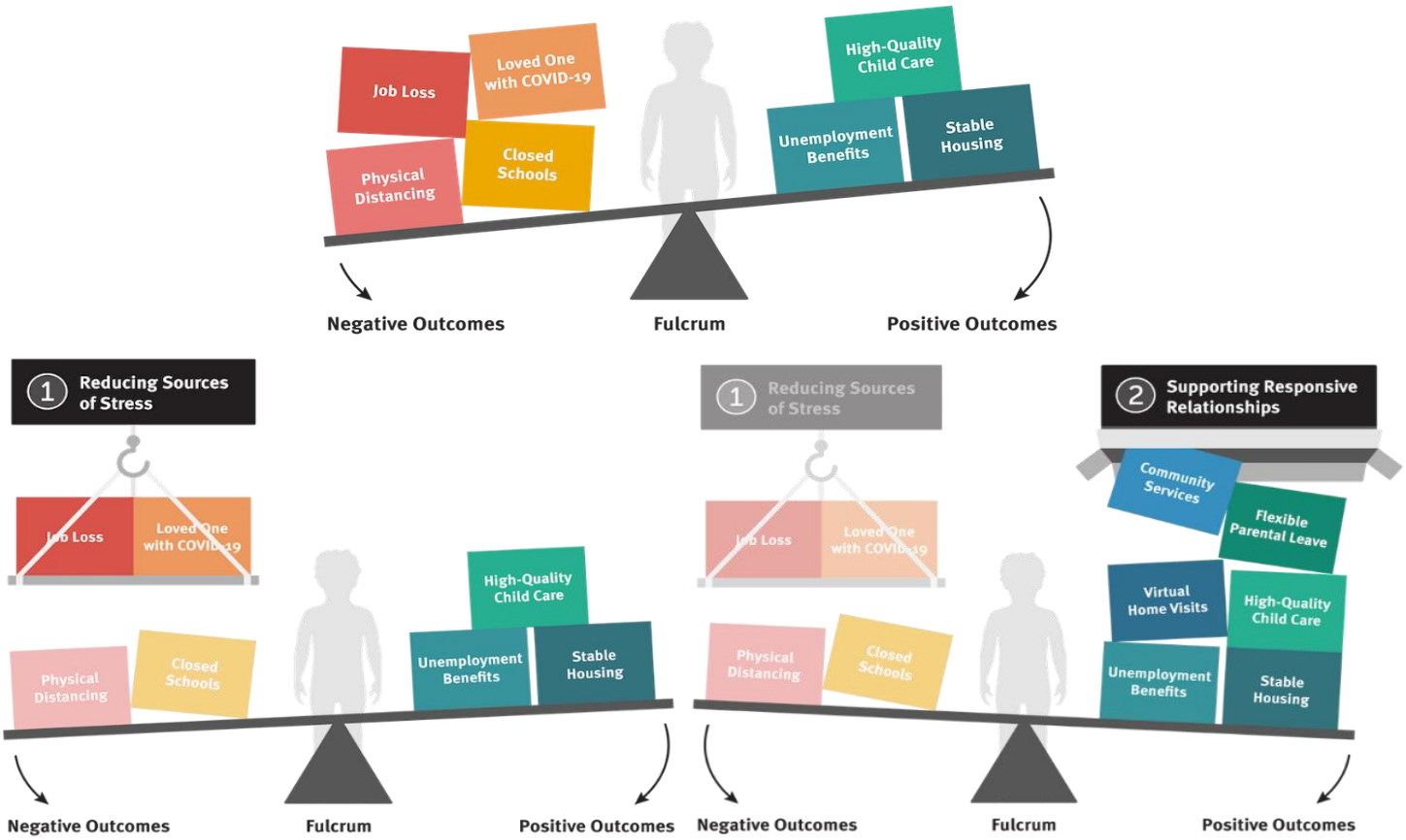

Figure 4. Resilience balance scale analogy (retrieved from: www.developingchild.harvard.edu).

However, one must note that besides cumulative factors, there may also be synergic relations between them in both sides of the scale. This may lead to a different balance even for populations in apparent same circumstances, where their scale fulcrum would be in the same position. For instance, migrant populations of the same ethnic background living in different places, with access to different services, and so on. Hence why understanding the systems in which populations are integrated is of great importance to analyse their risk exposure or increased vulnerability, in order to know what are the vulnerability factors that have to be taken off the scale, as well as the protective factors that have to be put on the scale – always according to the population's needs, resources, and conditions.

"Resilience management goes beyond risk management to address the complexities of large integrated systems and the uncertainty of future threats" (Linkov et al., 2014, p.).

One must note that this perspective always entails a trap as resilience is typically seen as positive. As Walker et al. (2002) and Palma-Oliveira and Trump (2017, 2019) bluntly underline, certain systems' higher resilience is negative. The process of resilience is 'neutral' but what makes a certain resilience state being positive or negative is the observer. For instance, some democracies have low resilience when they cannot resist to some disruptions, while certain autocratic states can resist much more to the same kind of disruptions. One may argue that the fact that a democracy can be characterized as having a low resilience, means that it should change into an autocracy.

Moreover, resilience being 'neutral' means that the classification of positive or negative as to do with the values of the political and scientific values that we pursue. Concerning the study of vulnerable

groups and dimensions, they define (and are defined) by systems that make those vulnerabilities highly resilient (not changeable even when confronted with stresses and disruptions). In a nutshell, resilience in the majority of the case studies above described is already present in a deleterious way, and COVID-19 as a disruption is showing the consequences of that resilience.

Furthermore, as described before, the true adaptations of the macro systems to the communities of concern (particularly the existence of specific governance rules and information specific strategies) are particularly transparent trough the time analysis and this is a clear objective across case studies.

From a conceptual perspective, this deliverable helps to justify and validate the chosen approaches and framework, as we were able to find some common ground across all case studies. We know that certain groups are more hit by the measures but are not necessarily more touched by the COVID than the general population. This aspect is of special importance.

The question is not when will this world threat end - because it will eventually be extinct. The important questions are how well we can work together to protect particularly vulnerable populations and how much we will learn from this unprecedented challenge and make necessary changes for future world life-threatening events – which will most certainly continue to exist.

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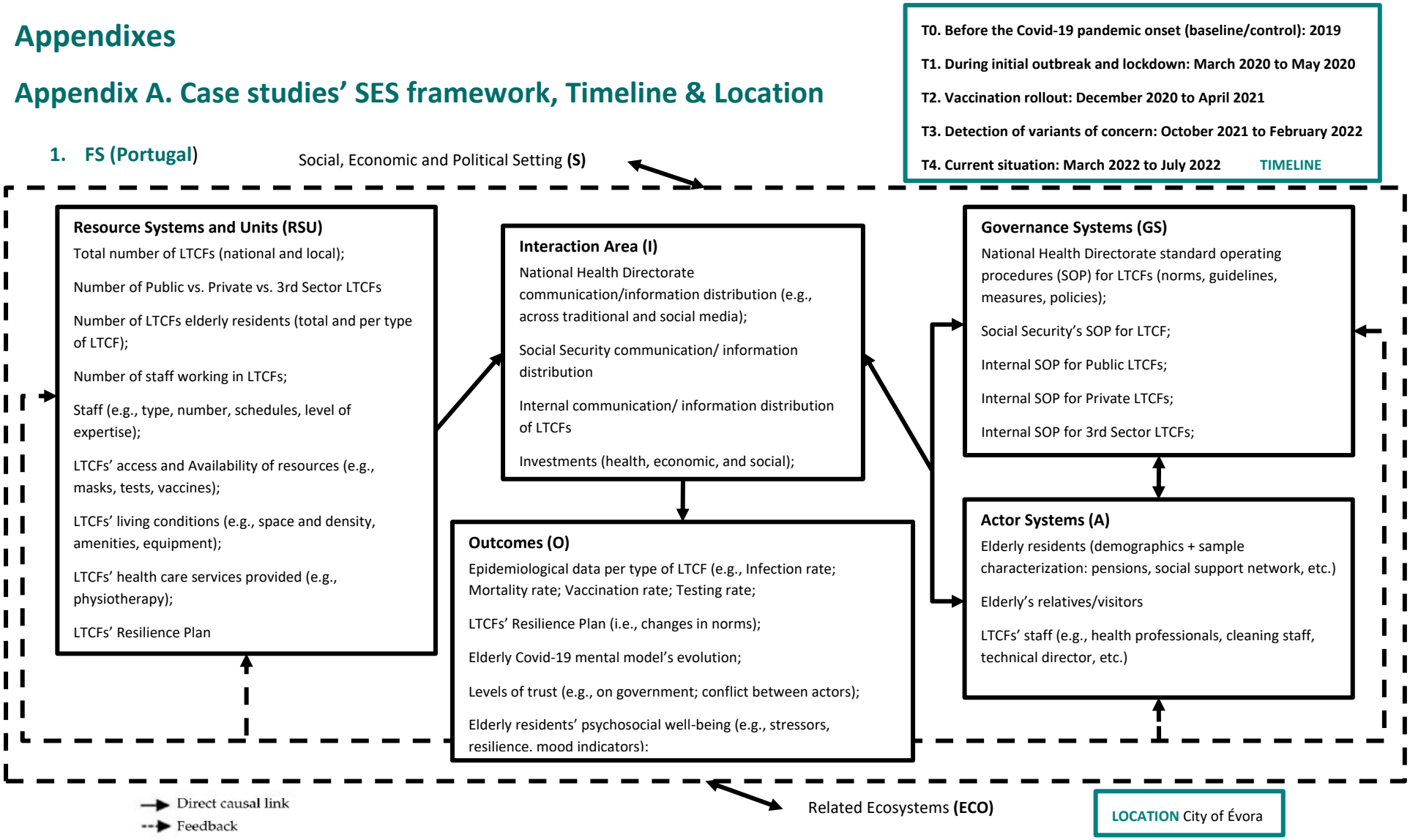
Appendixes

Appendix A. Case studies' SES framework, Timeline & Location

1. FS (Portugal)



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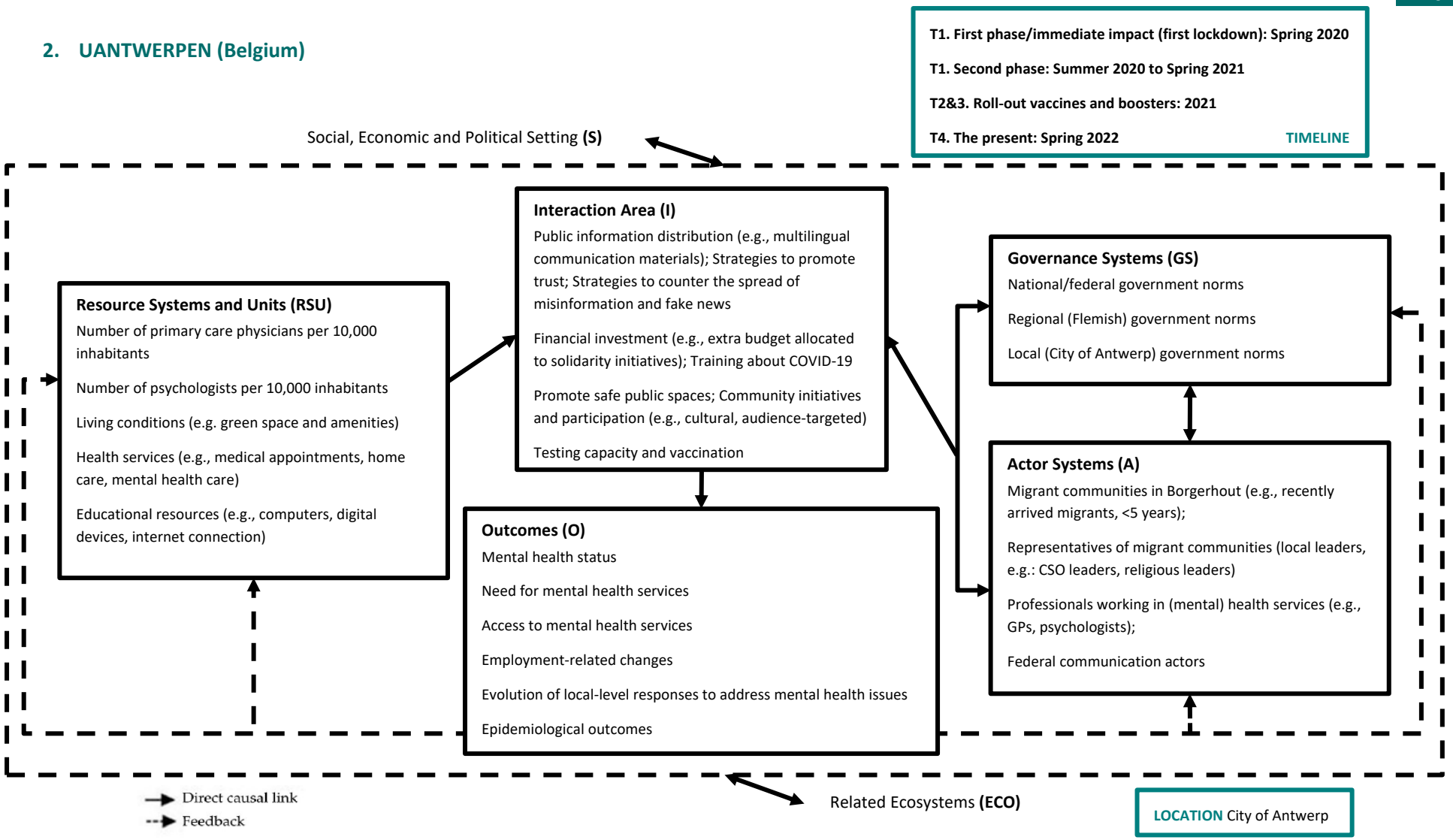

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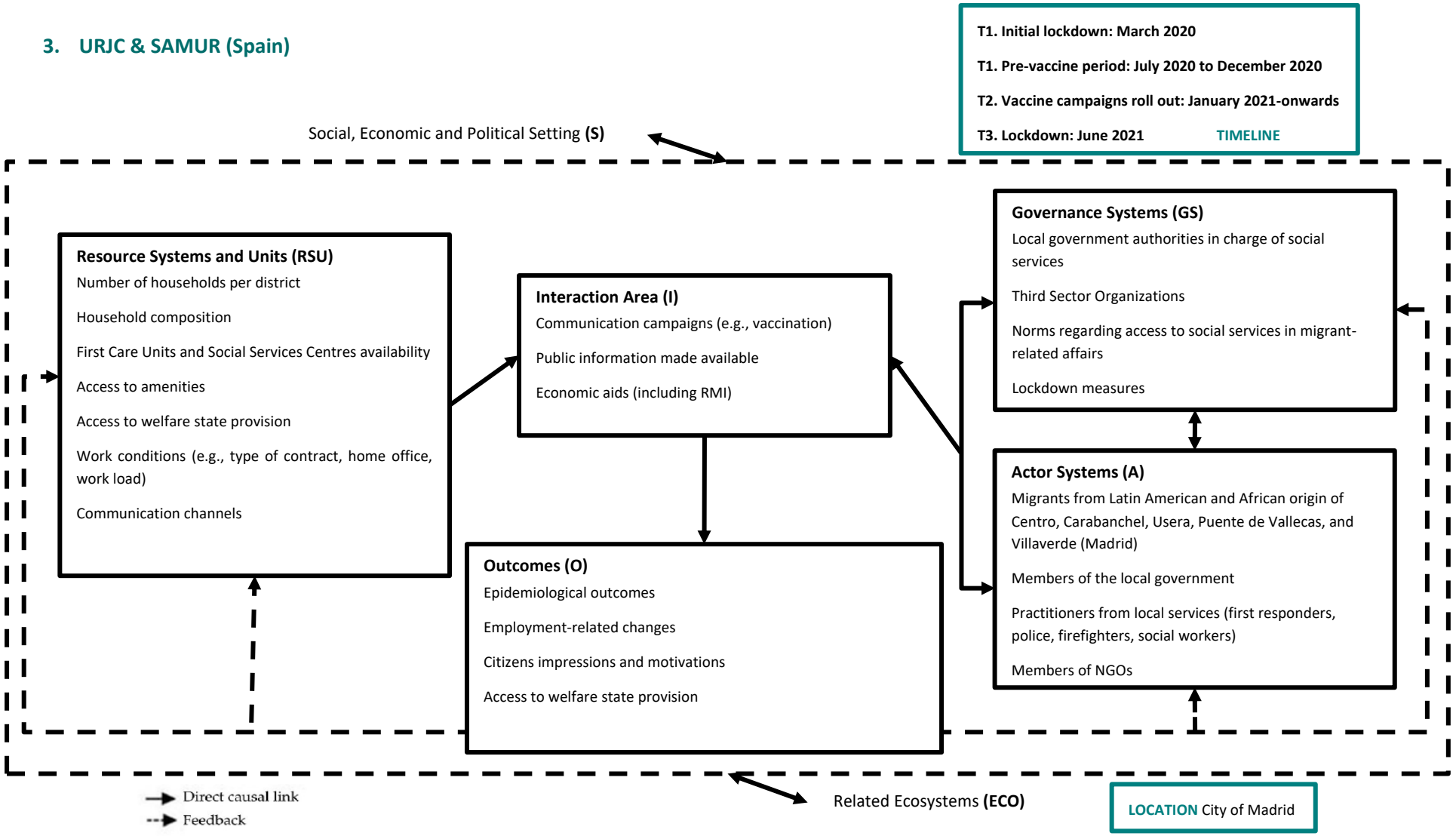
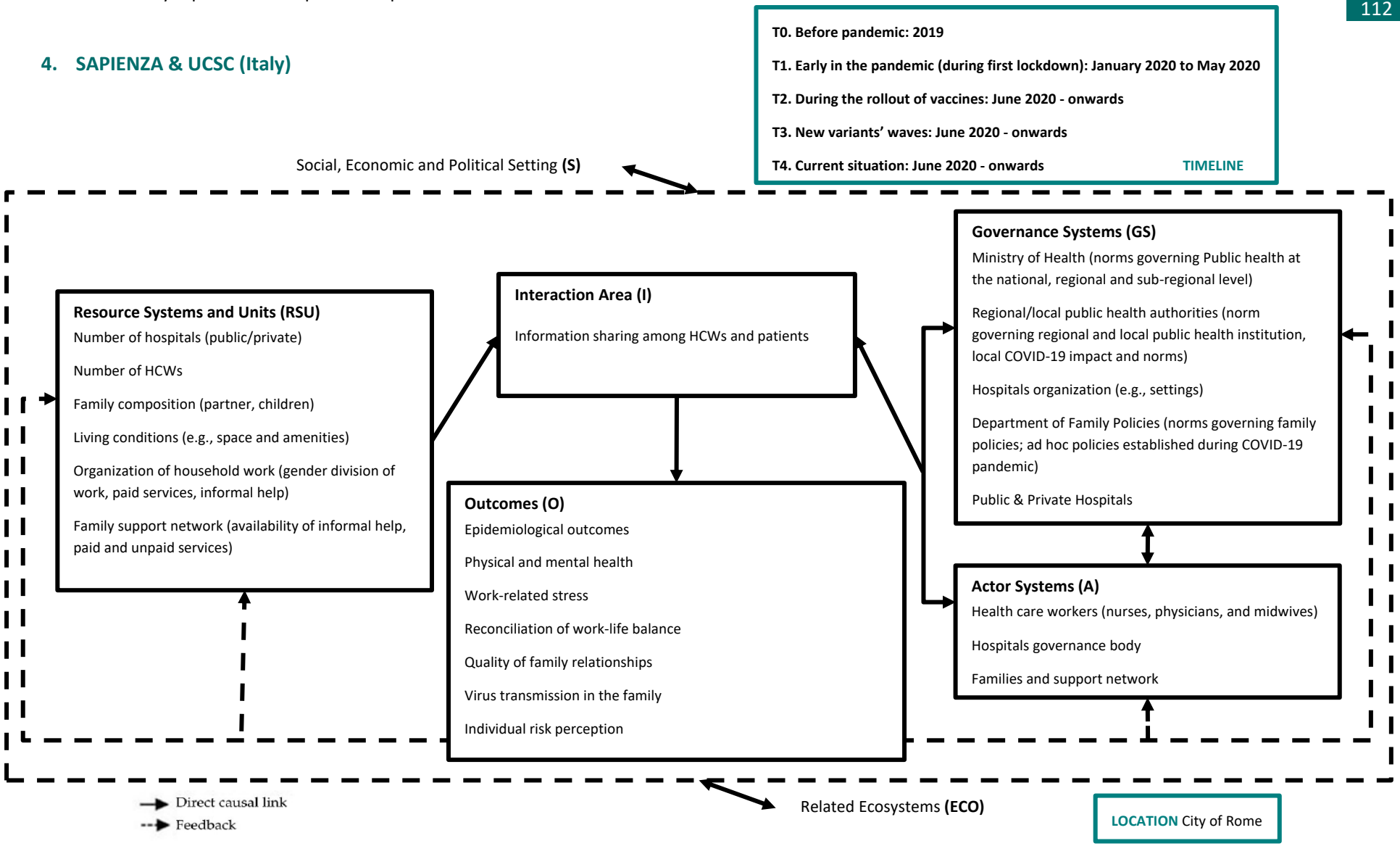
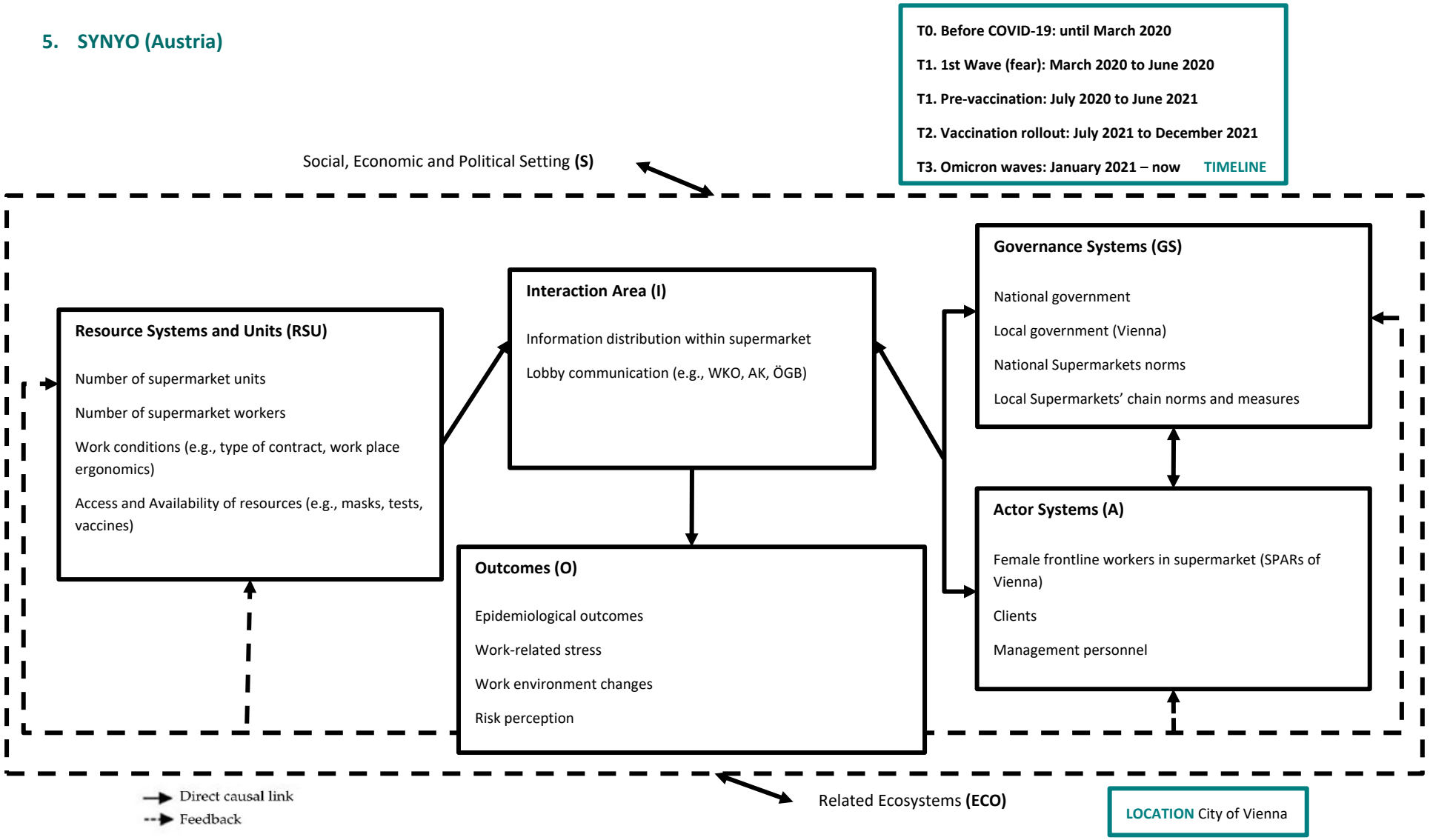


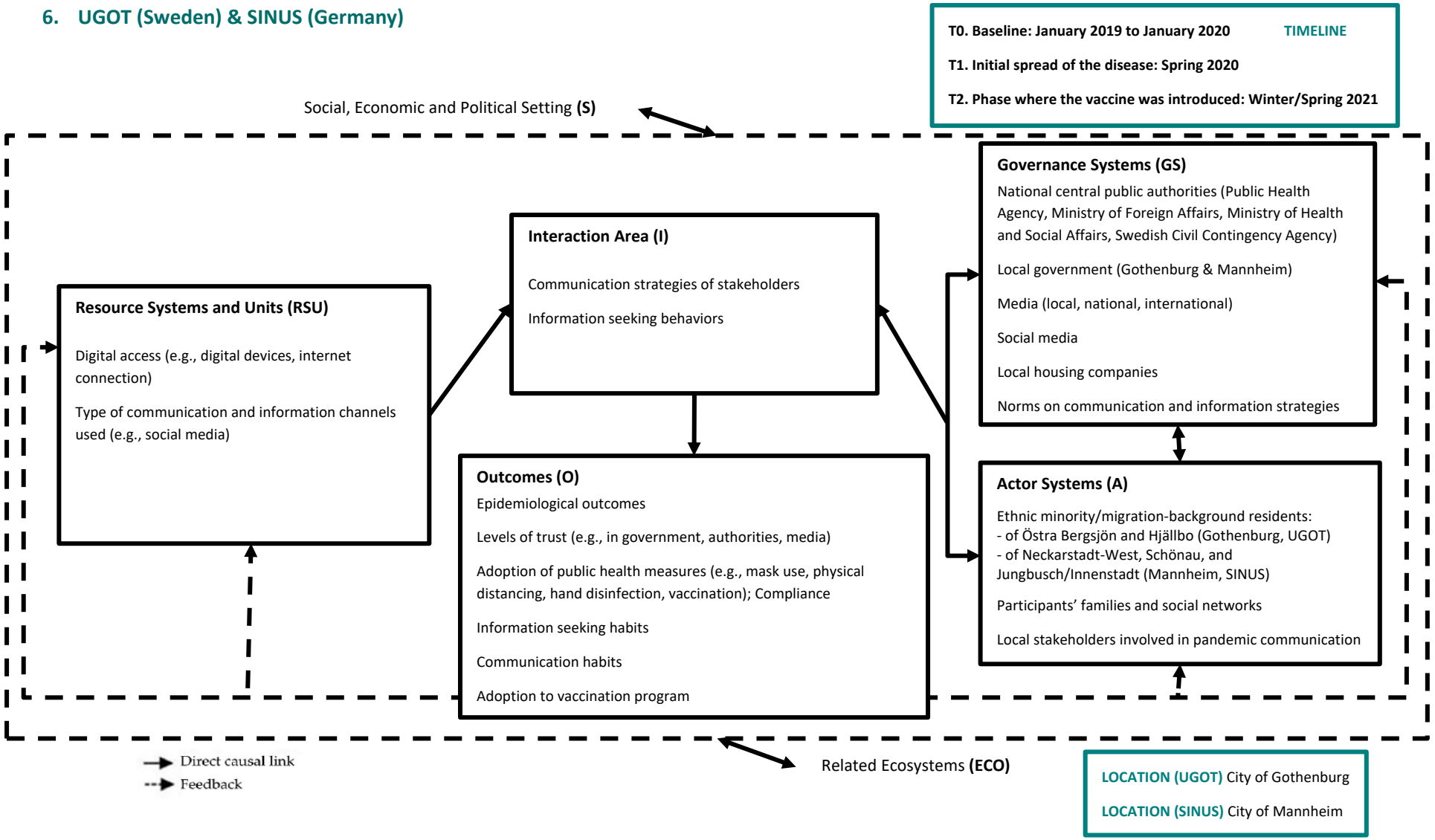
4. SAPIENZA & UCSC (Italy)



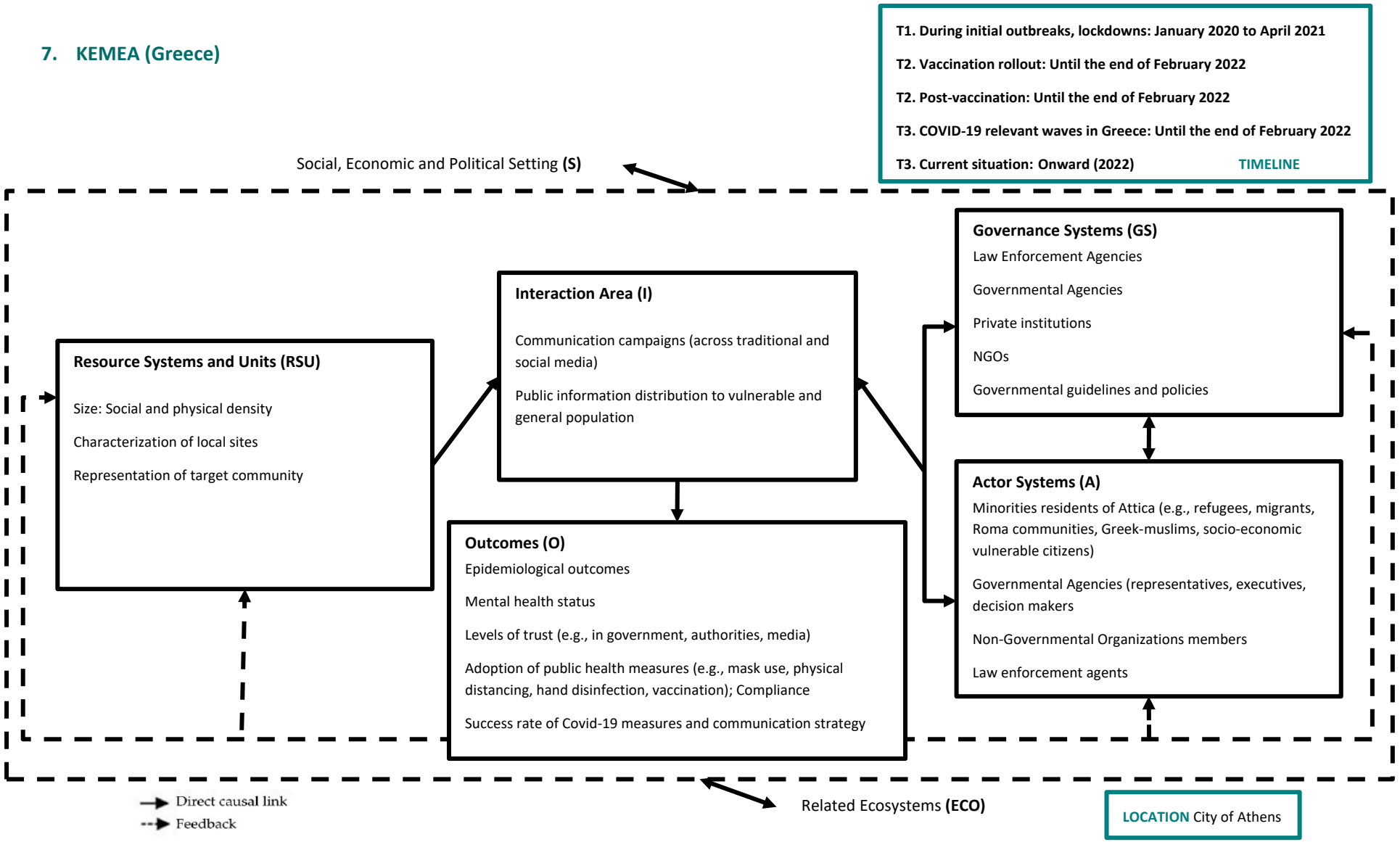
5. SYNYO (Austria)



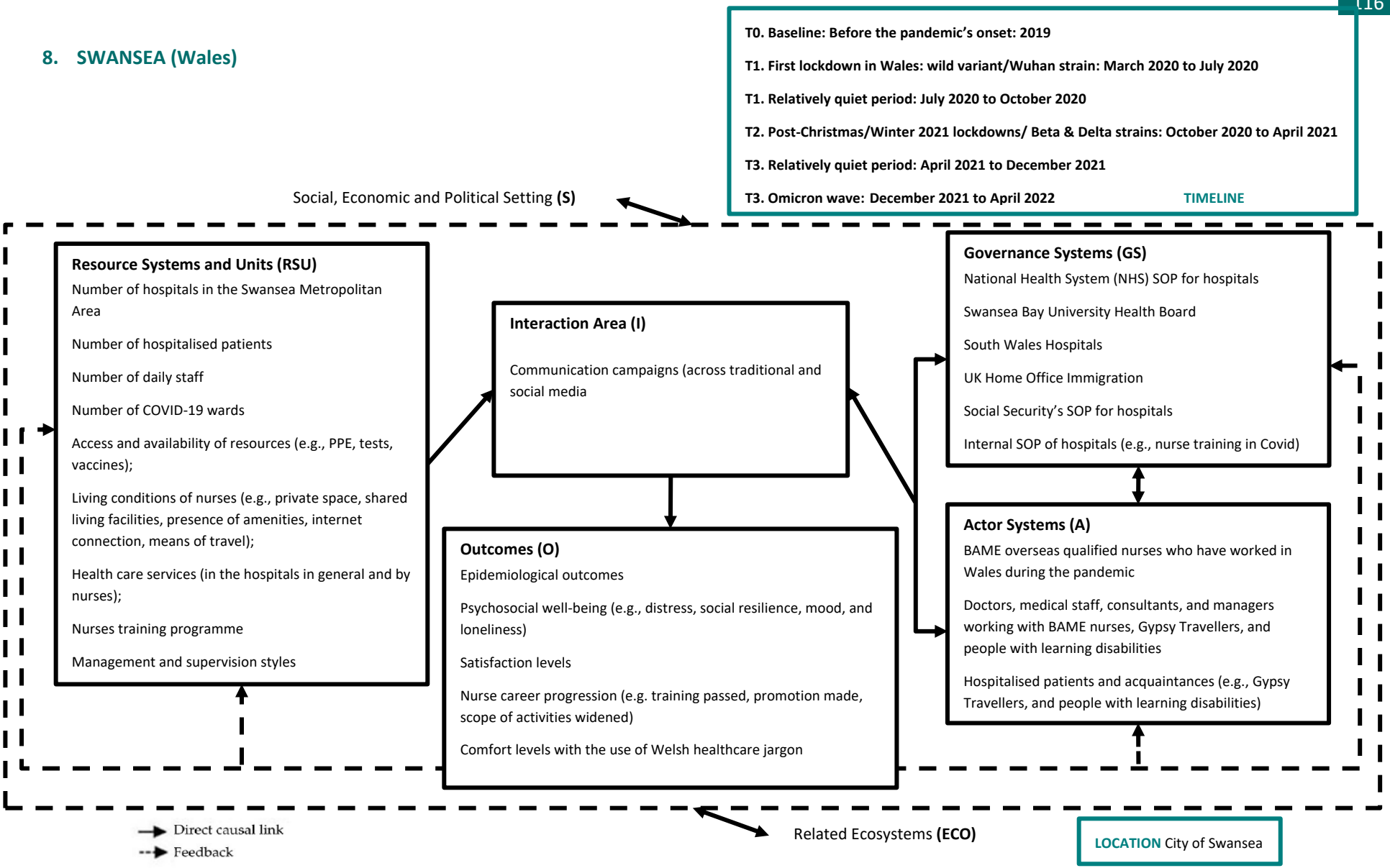
6. UGOT (Sweden) & SINUS (Germany)



7. KEMEA (Greece)



8. SWANSEA (Wales)



9. MDI & TRI (England)