D1.2 – Lessons learned and best practices

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Executive Summary

This report on COVID-19 Crisis Governance is Deliverable 1.2 'Lessons learned and best practices' of the project HERoS - Health Emergency Response in Interconnected Systems. It builds on HERoS' Deliverable 1.1 'Recommendations for governance and policies in the COVID-2019 response'. This Deliverable contains three parts. **Part A** drives on extensive qualitative research in three European countries (the Netherlands, Finland, and Ireland). **Part B** presents best governance practices and challenges in cross-border medical supply chain. It takes lessons learned from the EU joint procurement and the COVAX initiative for the purchase and distribution of COVID-19 vaccines. **Part C** reflects on the social network Municipio Solidale in Rome the charity work in the years of the COVID-19 pandemic. **Part D** provides the best practices from deployment of UK-MED and PCPM's Emergency Medical Teams (EMTs).

Part A presents collected evidence and share best practices and lessons learned related to the governance of the COVID-19 crisis within **nursing homes** and **secondary schools** in Europe. Using a whole-of-society approach which we presented in Deliverable 1.1, we looked at three analytical layers: (1) the state and the institutional landscape, (2) established and emerging response organizations and networks, (3) societal resilience and participation. We conducted in-depth interviews, observations, and focus group discussions, and in the Netherlands, we additionally made use of a participatory action research approach wherein we used visual ethnography, photovoice, video diary and arts-based engagement research.

Regarding nursing homes, three main themes emerged from our data. First, we found high levels of trauma among nursing home workers and supporting organisations. Therefore, on-site group therapy is the envisioned response needed. Second, we found a major workforce outflow of the sector. This could be mitigated by a structural wage development that is in line with the value of performing essential work duties and would additionally heighten the attractiveness of the nursing profession. Third, due to lack of governmental and public appreciation we have found diminished levels of professional pride, which could be addressed with aligning nursing home working conditions with national hospital standards. In conclusion, we warn about the possible uprising of a European social care crisis which could be mediated by rapid policy-level action in line with our findings.

For secondary schools, we also derived three main themes from our data. First, we argue that there is a need in European countries for leadership that facilitates action towards the well-being of our young populations. Experts stressed the importance of strengthening adolescents' lobbies and advocacy groups in decision making processes. Second, there is an urgent need for funding into tackling COVID-19 associated increases in inequalities among adolescents. Extra time and attention should be allocated to adolescents who have fallen behind with their studies during the past two years. Lastly, we discovered many adolescent accounts of depressive and anxiety symptoms and we emphasise the urgency of closing Europe's biggest treatment gap within mental health services for youth by reducing waiting times. There is no doubt that the COVID-19 pandemic has caused long-lasting, and in some cases even life-long difficulties to young people.

In conclusion, nursing homes and secondary schools are dealing with different vulnerable groups, risks, and priorities and hence, this fuelled variations in crisis response. General measures (e.g. school closures/visitor ban) should be **decided upon by central authorities** supported by proper coordination mechanisms, while more specific guidelines that depend on the individual attributes of the field needs to be **decentralized and bottom-up**. Deepening **citizens' participation** into the crisis response gives them ownership and control to influence public decision-making that affects their lives.

Part B presents the desk review on the European Union's **joint procurement** for personal protective equipment, ventilators, laboratory equipment, therapeutic remdesivir and ICU medicines and vaccines, and the COVAX Facility for equitable access to COVID-19 vaccines. Since the COVID-19 pandemic has changed how we govern global medical supply chains unprecedented joint procurement and collaboration initiatives have been set up during the pandemic. In this part we refelct on such cross-border governance mechanisms of joint procurement initiatives in medical supply chains. It examines challenges and best practises by collaborative initiatives from both the EU and the COVAX' COVID-19 vaccine procurement and distribution. Both comprise innovative cross-border collaborative mechanisms for vaccine procurement and distribution, yet differ across membership, geographic scale, policies, and organizational governance arrangements. They were both values-driven initiatives, inspired by calls for solidarity, but also stemming from necessity.

The EU's procurement for innovation mechanism required the adoption of novel practices in contract development and management, plus new governing institutions (first RescEU, now also HERA). This Part 2 shows how the EU faced unique challenges with one of their co-funded vaccine developers that resulted in disputes over delivery volumes and schedules. However, the joint purchasing of COVID-19 vaccines using Advance Purchase Agreements with vaccine manufacturers through funds under the European Commission´s Emergency Support instrument has been an innovative cross-border governance initiative that could inspire similar collaboration in other domains (e.g., energy). It comprised a centralised or 'centre-out' governance arrangement co-ordinated by the European Commission with formal rules within a fragmented bureaucracy, pursuing legal and political alignment among member states of a tightly connected union. It is characterised by broad regional scope, being far more ambitious than earlier EU procurement strategies.

Part C is a presentation of the case Municipio Solidale, a local solidarity project in Rome that started at the beginning of the pandemic in March 2020 and lasted until the end of July 2020. The case is about the distribution of food in a municipality in Rome by spontaneous volunteers and social networks. The case presents the challenges the social network had to overcome. The fact that most of the planned activities are still ongoing in 2020 and are permanently included in the territorial offers, shows not only how urgent these measures were in the most difficult period of the pandemic crisis, but above all how necessary they were in general. The response of the territorial community itself, the degree of mobilization and passion that characterized all the activities of the project, as well as the welcome of citizens tell us that Municipio Solidale has managed to respond to a complex request already present in the VIII Municipality, which are further amplified by the COVID-19 pandemic: a demand for primary goods and relational goods among the most vulnerable. The case shows that local initiatives will last and grew into stable charity mechanisms and have the potential to become part of whole of society governance mechanisms.

Part D describes PCPM part in EMTs that were one of few emergency response mechanisms that were of relevance in the COVID-19 pandemic. The teams of highly specialized medical staff, with considerable international experience and working under the auspices of the WHO, could have and in many instances were, a very meaningful support to the developing countries facing the worst brunt of the pandemics, coupled with shortages of skills, experienced personnel and equipment. This part summarizes main operational difficulties faced by UK-Med and Polish PCPM's Emergency Medical Teams, stemming from 25 and 7 COVID-19 deployments respectively. In particular it discusses the changing role of EMTs, as well as challenges faced in meeting high expectations of the respective ministries of health.

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List of Acronyms

Acronym	Description
ALCS	Advanced Cardiovascular Life Support
APA	Advanced Purchase Agreement
ARDS	Acute Respiratory Distress Syndrome
Ausmat	Australian Medical Assistance Teams
ASB	Arbeiter-Samariter-Bund
BLS	Basic Life Support
CEPI	Coalition for Epidemic Preparedness Innovations
CDC	Centers for Disease Control and Prevention
ECDC	European Center for Disease Control and Prevention
EMT	Emergency Medical Team
EU	European Union
HSE	Health Service Executive
HSC	Health Security Committee
ICU	Intensive Care Unit
IMC	International Medical Corps
INEM	Instituto Nacional de Emergência Médica
INSARAG	International Search and Rescue Advisory Group
IPC	Infection Prevention & Control
LTCF	Long-Term Care Facility
MoH	Ministry of Health
MOOC	Massive Open Online Course
NGO	Non-Governmental Organization
NVIC	Nederlandse Vereniging voor Intensive Care (the Dutch Association for Intensive Care)
NWO	Dutch Research Council
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
OMT	Outbreak Management Team
OMA	Markets for Antibiotics Mechanism
OMV	Options Market for Vaccines
PPE	Personal Protection Equipment
PTSD	Post-Traumatic Stress Disorder
RCCE	Risk Communication and Community Engagement
REC	Research Ethics Committee
RIVM	Rijksinstituut voor Volksgezondheid en Milieu
TFEU	Treaty on the Functioning of the EU
ToR	Terms of Reference
THL	Finnish Institute for Health and Welfare
UK-EMT	United Kingdom Emergency Medical Team
UN	United Nations
UNHCR	United Nations High Commissioner for Refugees
USAR	Urban Search and Rescue
UV-C	UltraViolet C
WHO	World Health Organization

1 Introduction Part A

The COVID-19 crisis is a global infectious disease outbreak, officially declared a pandemic by the World Health Organization (WHO) on 11 March 2020 (Cucinotta & Vanelli, 2020). This pandemic is considered a wicked problem, defined as a complex situation for which there is no simple solution and on top of that, wherein possible solutions for the problem may cause new challenges elsewhere (Weber & Khademian, 2008). As spelled out in HERoS' Deliverable 1.1 the COVID-19 crisis can be seen as wicked because both the disease and the associated **mitigation strategies** affect societies in numerous ways, and as a result, there is no single best way to respond to this pandemic (Boersma et al., 2020). The risks for populations worldwide due to the COVID-19 crisis are compounded by already existing high levels of vulnerability, interconnected with other challenges such as population diversity and inadequate (or at least challenged) healthcare systems, socio-economic impacts (partly due to measures particular to lockdowns) and secondary crises (such as, healthcare related issues, job insecurity, and unemployment). Hence, the knowledge base for responding to and analysing the COVID-19 crisis is fragmented and contested (Daviter, 2019). Consequently, COVID-19 crisis governance measures in reaction to the virus outbreak are necessarily incomplete, inconclusive and incommensurable.

At the beginning of the COVID-19 pandemic there was a call for immediate actions to reduce infected cases and prevent intensive care units from becoming overloaded. Along the course of the duration of the pandemic, an increasing realisation evolved that **mitigation measures** constituted multiple interacting components and triggered a plethora of unintended consequences. To date, it remains unclear how these measures will unfold in complex systems whilst targeting a variety of organisational levels and multiple groups (Turcotte-Tremblay et al., 2021). For instance, differences in vulnerability between social groups may influence the impact of COVID-19 crisis measures. As an important part of the **whole of society crisis governance approach**, with this Deliverable we aim to contribute to the question of how societal actors (networks of stakeholders) not only deal with the measures put in place by formal authority, but more importantly, how they play an active role in the crisis governance.

In the research we conducted for this Deliverable 1.2, we drew on the conceptual paradigm of **vulnerability** to understand and address human health disparities in the context of the COVID-19 crisis response. While the concept of vulnerability makes intuitive sense, it lacks a simple definition. Vulnerability can be considered as a polysemous construct comprising multiple, but related meanings (Panter-Brick, 2014), such as fragility, dependency, complexity, insecurity, and low resiliency. Vulnerable individuals are often portrayed as being susceptible to harm (Adger, 2006) and hence, vulnerability is closely related to debates about risk, victimization and insecurity (Delor & Hubert, 2000). Within this paradigm, it is important **to acknowledge the different dimensions of vulnerability such as exposure, sensitivity, and the capacity to adapt** (Adger, 2006), the domains of functioning relevant to health (physical, psychological, and social), meanwhile taking the multiple and often interacting circumstances into account that renders an individual vulnerable. For example, individuals can be vulnerable because of biological factors, personal choices, but also because of social, political and structural determinants (Willen et al., 2017). Despite its ambiguity, vulnerability is a practical paradigm that offers a window to answer questions about who is to be protected, and from what? Translated to the situation of the COVID-19 pandemic, we focused on how vulnerable populations are,

or are not, affected by the COVID-19 crisis and **how governance arrangements in response to the COVID-19 pandemic can best anticipate such varying vulnerabilities** encountered within society.

We looked at the COVID-19 crisis response of two separate networks of stakeholders that are primarily occupied with vulnerable groups, yet the nature of their vulnerability is entirely disparate. The first stakeholder network is concerned with elderly in **nursing homes** who are highly susceptible to Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) due to a weakened immune system and comorbidities (Onder et al., 2020; Utsumi et al., 2017). In addition to being vulnerable in a physical way, they may have rendered socially and psychologically vulnerable during the imposed social isolation due to this pandemic (Wammes et al., 2020). The second stakeholder network focuses on adolescents in **secondary schools** who are limited susceptible to SARS-CoV-2 virus, but are paradoxically suffering from the COVID-19 mitigation strategies. As a consequence, they are considered to be carrying the highest psychosocial burden during this pandemic (Ghosh et al., 2020). However, youth are also considered as flexible and highly resilient.

While both networks share the aim of risk management of the COVID-19 pandemic, they are dealing with different dimensions and domains of vulnerability, needs, priorities, levels of risk, and risk perceptions. Moreover, anti-corona measures are embedded within different stakeholder networks with each its own norms, practices, and institutional logics that may give rise to tensions. At the individual level, professionals, practitioners, or citizens might lack the capabilities or skills to put certain measures into practice or argue that measures do not fit with their professional identity, personal ideology, or values (Kyratsis et al., 2017). Both stakeholder networks have a certain level of autonomy to customise authorities' top-down measures to their own needs and unexpected consequences (Weick et al., 2005). Consequently, this may fuel **variations in governance, i.e. in how mitigation strategies are designed and implemented on the ground**, including processes of decision-making (Capano et al., 2020), collaboration and coordination between established and emergent stakeholders (Aguilera & Cuervo-Cazurra, 2004), crisis communication (Boersma et al., 2017), and collaborative sensemaking (Weick, 1993).

1.1 Objective Deliverable 1.2

The main aim of this Deliverable 1.2 is to present the evidence we collected and to share **lessons learned, best practices, and actions to practise related to the governance of the COVID-19 crisis within secondary schools and nursing homes**, in the Netherlands, Ireland, and Finland. Four European countries in which different governance styles have been used to respond to the COVID-19 pandemic: ranging from an "intelligent'' to a "full" lockdown. In each country, we focussed on its capital. The 'formal' dimension of COVID-19 crisis governance refers to the guidelines, plans and rules (policies) and to the arrangements (for example, crisis management structures) that are pre-designed, including the institutions, the roles and responsibilities of different actors, and the collaborations between them (Weible et al., 2020). The 'Informal' COVID-19 crisis governance refers to the complex web of stakeholders and networks at all levels that are active outside of formalized governance arrangements, which however seriously affect and influence such arrangements. Here, the formal institutions rely on rules and government structures, while the informal institutions shape relationships primarily stemming from ideology and culture (Kaufmann et al., 2018). Within this research, particular attention

was paid to the **social and human aspects of governance**, the processes of decision-making, collaboration and coordination among institutions, organizations, and individuals to meet the needs and interests of the public within certain areas. It includes the **complex interplay between various stakeholders in steering sets of policies and actions that define and ensure specific societal needs**. Using a whole-of-society approach, introduced in HERoS' Deliverable 1.1 (Christensen & Lægreid, 2007; Boersma et al., 2020) we focussed on three analytical layers: (1) the state and the institutional landscape, (2) established and emerging response organizations and networks, (3) societal resilience and participation. For each network, we approached different stakeholders who are involved in the response to the COVID-19 crisis (table 1).

		Nursing home network	**Secondary school network**
1	**State and institutional landscape**	Outbreak management team, national institute for public health (RIVM, HPSC, THL), public health services, municipalities, ministries, ECDC, WHO	
2	**Organizations and networks**	Nursing home management, general practitioners, mental health care workers, hospital employees, geriatric specialists	School management, school associations, parent councils, corona management teams, advocacy groups, school doctors/GPs, teachers
3	**Societal resilience and participation**	Health workers, elderly, their families, volunteers in nursing homes	Teachers, students, their siblings, parents, volunteers in schools

Table 1: Overview of the nursing home and secondary school stakeholder networks

The main research question of Deliverable 1.2 is:

> *"How did various **formal and informal stakeholders** within secondary school networks and nursing home networks govern the COVID-19 crisis situation over time?"*

The guiding sub-questions are:

> *"How did the involved stakeholders design and implement COVID-19 mitigation strategies? How did they collaborate, coordinate and make joint decisions in response to the COVID-19 crisis? How did they communicate and collectively make sense of the evolving situation?*

1.2 Outline

In Part A, we will start off with a brief description of the situation in nursing homes and secondary schools during the COVID-19 pandemic in Europe (Chapter 1.3 & 1.4) and give an overview of our methods (Chapter 1.5). We then present our findings regarding the vulnerability paradox: the COVID-19 crisis response in nursing homes & secondary schools (Chapter 2), in which we included three separate sub-studies with each their own introduction, methods, findings, discussion, and conclusion.

Our first sub-study constitutes a multi-country research in the Netherlands, Finland and Ireland about the COVID-19 crisis response in nursing homes during the hot phase of the pandemic (Chapter 2.1).

We conducted extensive literature review, dialogues, in-depth interviews, and observations in nursing homes. The second sub-study is an in-depth case study in a Dutch nursing home about COVID-19-related trauma and the need for organizational healing (Chapter 2.2). For this sub-study, we used a participatory action research approach, meaning that we (partly) co-created the research design, questions, data collection and data analysis with respondents along the entire research process. This is key to develop not only valuable scientific knowledge but also action in practice. Besides literature review, in-depth interviews, observations and dialogues, we conducted visual ethnographic research. Visual ethnography included video documentation of qualitative fieldwork that involve and reflect respondents' perspectives and experiences of the COVID-19 pandemic. Our third sub-study assessed the COVID-19 crisis response in secondary schools in the Netherlands, Finland, and Ireland (Chapter 2.3). Besides traditional forms of qualitative research, we used a wide range of creative methods, such as visual ethnography, photovoice, video diaries and arts-based engagement research.

We will finalize the report with an overview of best practices and lessons learned (Chapter 2.4) and future perspectives (Chapter 2.5) and wrap up with our conclusions (Chapter 3).

1.3 Nursing homes

Older adults are more susceptible to the infection by SARS-CoV-2 than any other population. Of all the COVID-19 deaths so far, 50% occurred among people aged over 80 years (Verity et al., 2020). Since the start of the pandemic, nursing and residential care homes have been affected the most (Gopal et al., 2021). The major reason for this is the population's lower health status due to their age and possible underlying medical conditions. Moreover, they live in semi-confined spaces where there is a higher chance of infection (Onder et al., 2020; Utsumi et al., 2010). Yet, as Miralles et al. (2021) stated, the general suboptimal standard of long-term care is also an important underlying problem of the severe impact of the COVID-19 pandemic in nursing homes. Already in 2011, the European Union Geriatric Medicine Society (EUGMS) raised its concerns for the care situation in most nursing homes throughout Europe, which are now highlighted by the COVID-19 pandemic. For instance, lack of funding, staff, and specific medical education in long-term care (O'Neill et al., 2020). As a result, at the start of the pandemic, nursing homes were confronted with an enormous shortage of personal protective equipment (PPE) which increased the risk of spreading the virus (McGarry et al., 2020). As in many countries care workers are obliged to wear PPE during each interaction with patients, this still remains a major problem for the sector today. Other notable measures taken by countries to control the virus and minimize the infection risk for elderly are restricted visits, room isolation of residents, and cancellation of all daily activities (Miralles et al., 2021). This meant that families, friends and informal caregivers were not allowed inside nursing homes and residents themselves were not allowed to go outside (Wammes et al., 2020).

Although restrictive measures like these are extremely efficient in containing the virus and therefore considered successful from a medical perspective, they also have an enormous negative impact on the lives of the nursing home residents and on care workers who work in these homes. Residents may experience psychological and physical harms while care workers are confronted with dilemmas and challenges about how to perform their work properly and ethically (Gordon et al., 2020). A study in the Netherlands, for instance, found that care workers working in nursing homes experience dilemmas in finding a balance between *'safety for all versus quality of life of an individual resident'* and *'allowing*

exceptions for strict visitor restrictions during the dying phase of residents' (Sizoo et al., 2020). Another study on the experiences of care workers in nursing homes showed that seeing residents suffering from isolation, illness, and death created an extra emotional burden on the already heavy workload of health care staff (White et al., 2021). This sometimes resulted in increased burnout symptoms and, consequently, an increased shortage of staff. Residents themselves, on the other hand, are at risk of suffering from a *'*double burden*'* as they also experience social isolation due to imposed physical social distancing rules as well as their inexperience with digital social connections, as argued by Seifert (Seifert et al., 2021).

Previous research has shown that social disconnection can have negative consequences for the health and well-being of elderly, such as feelings of anxiety and depression (Armitage & Nellums, 2020; Courtin & Knapp, 2017). Not only residents suffer from strict measures such as a ban on visitors, but also family and friends of these residents as they visit their relatives in nursing homes (Wammes et al., 2020; Yeh et al., 2020. Although most family members generally understand the visitors' restrictions, they may still experience sadness and fear because of their concerns about the well-being of their beloved ones. Both studies of Wammes et al. (2020) and Yeh et al. (2020) highlighted the increased need for family members to be regularly updated by staff about the residents' health status.

Most of these measures were generally taken without the input of family members and residents themselves, which raises important ethical questions on the right to autonomy and informed decision-making (Wammes et al., 2020; Bergman et al., 2020). Wammes et al. (2020) however, found that family members want to be involved in designing safety protocols to ensure that the measures correspond to their needs. In addition, leaders and 'on the ground' care staff of nursing homes haven't always been sufficiently engaged in the COVID-19 crisis management which has hindered optimal implementation of measures (Siu et al., 2020; D'Adamo et al., 2020). In other words, crisis management was predominantly top-down, organized and directed from national governments to the 'front-line' care workers. This is *'highly ineffective, often confusing, and enormously stressful to nursing home leaders'*, let alone to its residents and staff (Behrens & Naylor, 2020). Consequently, there is an increasing realization that the experiences and perspectives of all these stakeholders are essential to properly inform future governmental policies.

1.4 Secondary schools

In 2020, worldwide schools were closed in a total of 191 countries, because it remained unclear how high the risk was that adolescents would spread the SARS-COV-2 virus (Viner et al., 2021). Consequently, 1.6 billion (90.2%) students were out of primary and secondary schools as a result of the COVID-19 pandemic (Sheikh et al., 2020). An American study from Auger (2020) showed that school closure was associated with a decreased incidence and mortality rate of COVID-19. However, various scholars advocated the reopening of schools claiming adolescents should not be considered as super spreaders of the COVID-19 virus (Munro & Faust, 2020). Disruption of schooling, shifts in education modalities and concerns for the impact on students became a hot topic. De Figueiredo et al. (2021) and Tang et al. (2021) discussed the impact of measures on psychosocial health of students, describing how school closures caused anxiety, depression and stress. Masonbrink and Hurley (2020) pointed out the threat of school closure to adolescents' wellbeing, especially for those in poverty, who rely on

schools for mental, physical and nutritional needs. In the long run, school closures may trigger unintended consequences, such as decreased earning potential because of lower test results and lower educational attainment.

Viner et al. (2020) argued that school closure is less effective than other social distancing interventions, predicting that COVID-19 mortality is only decreased by 2-4%. They suggested the use of less disruptive interventions if social distancing policies were to be used for an extended period of time. In March 2021, 51 countries had fully returned to face-to-face education and 90 countries made use of hybrid learning options including both in-person and remote education. Nevertheless, the majority of schools in the world remained (partially) closed. There was already a huge educational disparity between students in high and low-and middle-income countries, but since the COVID-19 pandemic this global learning crisis is getting worse (The World Bank, UNESCO and UNICEF, 2021).

Reopening schools brought up other questions and dilemmas. How can secondary schools adequately implement COVID-19 measures and make sure to mitigate SARS-COV-2 infection? For example, in Israel, a large COVID-19 outbreak in a secondary school occurred just ten days after reopening the school (Stein-Zamir et al., 2020). Only few studies report implementation of mitigation strategies in schools. For instance Glabska (2020) assessed hand hygiene behaviors of adolescents and showed that Polish secondary school students had improved their hand hygiene in accordance with COVID-19 measures. Panovska-Griffiths et al. (2020) claim there is a need for large-scale, population-wide testing of symptomatic individuals and effective tracing of their contacts followed by isolation of diagnosed individuals' if schools will be reopened and a second wave avoided. This resonates with the study of Santos et al. (2020) that suggests the use of saliva as diagnostic and prognostic markers of SARS-COV-2 in adolescents. Blaisdell et al. (2020) explain how preventing and mitigating policies for SARS-COV-2 implemented in US youth camps could inform comparable multilayered public health strategies among adolescents in congregate settings, such as in residential schools.

1.5 Methods

For the research of this Deliverable 1.1 data has been collected during the months June 2021 to February 2022 in the capitals of the four participating countries, starting off with Amsterdam, the Netherlands. Below we will present the various data collection techniques that we have used.

1.5.1 Literature review

We first conducted a literature review of international and national documents regarding governance, COVID-19 crisis management, mitigation strategies, policy-making, coordination and communication in nursing homes and secondary schools in the Netherlands, Ireland, Finland, and beyond. We collected documents, such as media clippings, policy documents, protocols and guidelines, articles in peer-reviewed journals and background study reports from available online sources, and these were supplemented by materials provided by respondents included in this research. This provided an overview of the formal, centralized and planned actions taken by local, national and international authorities, processes of governance that are documented in protocols and guidelines, and formal and informal processes of governance that are found in the range of scholarly output that has been published in the last year about COVID-19 crisis management. We explored the main governance

challenges policy makers faced during the COVID-19 crisis in secondary schools and nursing homes and examined how international organizations, governments and formal authorities mobilized institutional capacity to tackle these challenges and coordinate action in deciding and implementing mitigation strategies.

1.5.2 Exploratory qualitative methods

Next, we conducted qualitative research, providing context-specific insights into perceptions and practices of key stakeholders regarding the governance of the COVID-19 crisis in nursing homes and secondary schools whilst revealing the nuances and complexities of respondents' lives. Attention was paid, depending on the respondents' experiences, to processes of designing and implementing mitigation strategies, including collaboration, coordination and decision-making between established and emergent stakeholders, crisis communication and collaborative sensemaking. In each country we conducted semi-structured, in-depth interviews (± 1hour each) and focus group discussions (±1.5 hour each) with a range of experts involved in COVID-19 crisis management on national and regional level, including for example representatives of the Outbreak Management Team, the National Institute for Public Health, the Ministries of Health, Public Health Services, GPs, interests groups, and private organizations. In each city (Amsterdam, Dublin, Helsinki, Budapest), we approached nursing homes and secondary schools for semi-structured in-depth interviews (± 1 hour each) with healthcare workers, elderly and/or their relatives/care takers, school staff members, and students and/or their parents/siblings. Respondents were asked to describe their experience with the COVID-19 crisis response and, from their point of view, the nature of collaboration with other stakeholders. During these first interviews, opportunities for suitable participatory observation were sought and decided upon in coordination with respondents. In the Netherlands, respondents were additionally asked whether they wanted to become co-researchers in our participatory action research (see below).

1.5.3 Participatory action research

In the Netherlands, we used a participatory action research approach, aiming at (partly) co-creating the research design, questions, data collection and data analysis with all stakeholders along the entire research process as this is key to develop not only valuable scientific knowledge but also action in practice (Janamian et al., 2016; Pearce et al., 2020). Building on the literature review, which garners insight into current COVID-19 crisis management strategies in nursing homes and secondary schools globally, PAR supports us to understand, together with respondents in the field, the gaps between policy and practice. This included the discrepancies between what people say they do or ought to be doing, and what they actually do, in everyday life. It is important to emphasize that this collective sensemaking is done *'with'* the respondents rather than *'on'* the respondents.

At the start of the research, we organized a series of dialogues (± 1.5 hours each) about governance during the COVID-19 crisis in Dutch nursing homes and in Dutch secondary schools together with stakeholders involved in the particular sector. We discussed our aim of formulating lessons learned and best practices and fostering action and change in the light of issues that are most significant for our respondents. We discussed the topics, such as design and implementation of mitigation strategies, including collaboration, coordination and decision-making between established and emergent stakeholders, crisis communication and collaborative sensemaking. An additional focus was created based upon the input of our respondents from the field, their primary concern was to assess organizational trauma and the impact of COVID-19 measures on the mental well-being of their staff.

With our interactive and creative approach, we were able to in-depth elaborate on associated experienced challenges and facilitators related to COVID-19 governance. This study has shown us the plethora of perceptions of and experiences with COVID-19 governance strategies and how these may interact and subsequently may be maintained, shifted, and reproduced in practice. Based upon this information, we were able to map out best practices and lessons learned of COVID-19 governance strategies in nursing homes and secondary schools. In the future, we aim to foster action in the daily lives of respondents by reflecting on our findings during various dialogues (Chapter 2.5).

1.5.4 Arts-based and visual methods

Together with a selection of our respondents in the Netherlands, we additionally used creative and innovative methods, such as visual ethnography (video documentation of qualitative fieldwork that involve and reflect respondents' perspectives and experiences) (Pink, 2020), photovoice (Catalani & Minkler, 2010), video diary (participant-generated video documentation, also called vlog, of the respondent's weekly or daily experiences) (Holliday, 2000) and arts-based engagement research (using paintings as an engaging and imaginative techniques) (Goopy & Kassen, 2019; Degarrod, 2013). Together with our respondents, we have selected these creative methods. In line with the aim of participatory action research, respondents also had an active role in the focus and the format of the creative assignment, based upon what they deemed most important. These data collection techniques facilitate the transforming of an interview into a more informal and creative interaction in which stories and someone's life experiences are more easily elicited than through conventional interview formats of question-and-answer. We triangulated already collected data and elicited new kinds of information, but additionally to provide respondents a different, proactive and for some, more comfortable way of speaking about their experiences. Moreover, these techniques gave the respondents influence, voice and power over how their experiences with responding to the COVID-19 crisis are explored and portrayed. In collaboration with several Dutch key respondents, we are additionally making a short ethnographic documentary about COVID-19-related trauma in a Dutch nursing home and another short ethnographic documentary about the COVID-19 crisis response in three Dutch secondary schools.

With these creative methods and output we generate a nuanced picture of the cultural and social context of two particular stakeholder networks, e.g. networks for nursing homes and secondary schools. We enhanced understanding together with respondents on their perceptions and knowledge of responding to the COVID-19 crisis and their experience with COVID-19 mitigation strategies and associated processes of collaboration, coordination and communication. In other words, we looked into the day-to-day formal and informal practices of governance and the interactions between all stakeholders involved. Combining exploratory and arts-based qualitative research has much to offer for collecting and maintaining a detailed data set, gaining novel insights, and producing and disseminating research findings. Artistic and visual qualitative knowledge allows for novel ways of reflecting on theoretical debates, having a strong potential to engage a wide range of audiences into a different life world. It enables the sharing of topics and knowledge that both engage and transcend medical and scientific rationales, and includes the perspectives and experiences from diverse stakeholders from national, regional and local levels. With the making of an ethnographic documentary, collection of photographs and the creation of art, we offer an alternative way of understanding and explaining the response to the COVID-19 crisis with all its (unintended) consequences, best practices and lessons learned for a wide variety of stakeholders. This allowed for

a collection of data that is far richer than other traditional qualitative methods (e.g. interviews) that is limited to collecting data about what people report.

1.5.5 Respondents

In total, we conducted around 152 individual interviews, multiple dialogues and participant observation in four secondary schools and five nursing homes, which yielded data that reached saturation while allowing for diversity and divergences. Exact number of respondents is specified in the chapters where the three sub-studies are described (Chapter 2.1-2.3) We used chain-referral sampling techniques where existing study subjects (e.g. management of secondary schools and nursing homes) recruited additional subjects from among their acquaintances. We have ascertained a representative sample of both authorities and community members to minimize sampling bias.

Inclusion criteria

In general: written informed consent

Stakeholders on regional, national or international level

- Working for an institution or organization that is preoccupied with the governance of the COVID-19 crisis in general or in nursing homes or secondary schools particularly
- ≥18 years

Stakeholders from nursing homes

- Living in or working at one of the included nursing homes or an elderly's family member/caretaker
- ≥18 years

Stakeholders from secondary schools

- Attending or working at one of the included secondary schools or a students' family member
- ≥16 years
- 12-16 years with informed consent of one of their parents/guardians

Exclusion criteria

Respondents unable to participate due to their health status or unable to give consent. This has been based upon the recommendations from secondary school management, nursing home management, or upon information from the respondent during a conversation introducing the research and discussing possible participation.

1.5.6 Data analysis

We transcribed all semi-structured in-depth interviews, focus group discussions, field notes of participant observation and the arts-based data. Data was then subjected to thematic content analysis, which was iterative and followed a process of coding and categorizing (using Atlas.ti software) (Glaser & Strauss, 2017). This was meticulously analysed for important recurring themes, patterns and meaning. We have tested our emerging interpretations by looking for disconfirming cases and variations in the data. Moreover, we have started with making short videos using our visual data. In the future, we will organize dialogues with involved stakeholders to discuss our overview of best

practices and lessons learned and then jointly formulate actions for practice. We conducted in-depth data analysis across different data collection types (rather than analysing different forms of data in isolation).

1.5.7 Ethics

Ethical clearance for the overall study was obtained from the HEROS Ethics Committee, the VU University Ethical Committee (reference number RERC/21-06-1), and the The Royal College of Physicians of Ireland Research Ethics Committee (RCPI REC). Our research was further approved by the Helsinki City Administration in Finland. All processing of data complies with ethical standards and guidelines within Horizon 2020, the '*Code of Ethics for Research in the Social and Behavioural Sciences Involving Human Participants as accepted by the Deans of Social Sciences in the Netherlands'* (CERSBSN)*,* and all relevant national and European legislations. Despite the fact that HERoS is a project under a public health call, it is important to note that no personal health data will be collected by the project and the research does not fall under *the Dutch Medical Research Involving Human Subjects Act*.

The postdoctoral researcher of the VU University (Dr. A. L. Cremers, the main author of this Deliverable 1.2) has been the data controller of this processing operation, and has ensured secure collection, management, storage, analyzing and publishing of data. We drew on the principles of respect for respondents' beneficence, non-maleficence, autonomy, and justice in making and guiding ethical decisions in this research. All our respondents received a consent form that summarizes the HERoS project and its aims. Written informed consent was obtained from each respondent before recruitment, interviews, dialogue and/or (participant) observation. We only approached respondents who were able to give their consent (for example, elderly in nursing homes who were unable to give consent have been excluded from the research). Ethical issues were fully addressed, in particular concerning confidentiality for respondents. We used pseudonyms and unidentifiable descriptions of respondents in our academic and non-academic output to ensure anonymity and confidentiality.

Our data collection process has been more ethical with our use of sensitive and creative methods, as findings more accurately portray respondents' own views and meanings. Moreover, there is the advantage of giving respondents control over how the data is collected, exploring themes through diaries, photos, videos, and paintings created by respondents. Additionally, respondents have enjoyed the research process more (Fraser, 2004).

1.5.7.1 Adolescents and ethics

Researchers are increasingly recognizing the necessity to study the unique perspectives and needs of adolescents (McDonagh & Bateman, 2012; Crane & Broome, 2017). Various research projects have illustrated that adolescents are very competent in their day-to-day lives to participate in research (Alderson, 1993; Lems, 2020; Dedding et al., 2013). This research aims at revealing the impact of COVID-19 measures within secondary schools amongst others on adolescents' lives. We argue that adolescents need to be actively concerned, involved in data collection and critical analysis, and may play an important role in formulating best practices and lessons learned. Article 12 of the UN Convention on the rights of the child explains that adolescents should be involved in decisions that influence their lives (Nations, 1989). Their rights have been described referring to three Ps: *providing for basic needs* (education, health care), *protection* (from neglect, discrimination, harm, abuse), and *participation*. Rights based research ethics include well-informing, listening to, respecting and

including the views of adolescents (Nations, 1989; Franklin, 2001). A huge advantage of including adolescents in research is that they may identify or prioritize other issues and questions than adults (Fraser, 2004). Moreover, it is important that themes and topics are relevant and resonant to the lived experience and perspectives of adolescents.

All adolescents have received verbal and written information about the study beforehand. We emphasized that participation is voluntary and that withdrawal from the study is possible at any time without the obligation to give a reason. If adolescents were reluctant or refused, we respected their privacy and free choice. But for those adolescents who were willing to participate, we argue that they should not be excluded and silenced. There is a need for parental consent only if an adolescent is between the ages of 12- 16 years old. Therefore, we provided parents with a consent form and a copy explaining the research process. They returned one consent form with their signature if they agreed on their child participating in the research. For this procedure, we followed the requirements of the CERSBSN.

We additionally made use of a progressive consent strategy (Gibbs et al., 2018), meaning that we regularly provided moments for adolescents to reflect on their well-being, preferences and needs within the research process and in which we discussed their rights, for example referring to the option of withdrawal. We are experienced in doing research with adolescents and have been sensitive to cues and body language to avoid the participation of adolescents who are afraid to refuse (Alderson, 1993). Regarding ethical challenges, we adhere to the *guidelines for responsible participatory research with children and young people,* see box 1 (Gibbs et al., 2018).

1. The opinions of adolescents will be listened to in research and opportunities will be created for genuine dialogue between adolescents and adult researchers.
2. Participatory research is more than expressing opinions; it also involves action and change.
3. Adolescents should have equal opportunities to participate in research. Particular attention should be paid to adolescents who are living in vulnerable situations and to adolescents with special needs.
4. The perspectives and experiences of adolescents are one of the main focuses of the research. The research concerns issues which are important to adolescents.
5. Before starting research, the necessary conditions (time, means) to ensure meaningful participation are guaranteed.
6. Adolescents are voluntarily participants in the research and will be openly and adequately informed about the research, before and throughout the research process.
7. Adult researchers who are responsible for the implementation of participatory research have the capacities from either education or experience to perform this kind of research.
8. Adult researchers guarantee the integrity and safety of adolescents participating in the research.
9. The research methods are adapted to the specific interests, competences and needs of adolescents. There is time and space for adolescents to explore and test their ideas during the process.
10. Adult researchers value the experiences of adolescents and desire to improve their circumstances based on the findings of the research.

Box 1. Guidelines for Responsible Research with Adolescents

1.5.7.2 Visual methods and ethics

There have been a great many research projects that involved visual methods within their methodology. Since the fifties, visual methods have started off traditionally as the domain of visual anthropologists, but are nowadays widely used in a plethora of disciplinary frameworks and settings (Pink, 2020; Pink, 2003; Pink, 2006). With visual data we refer to photographs and films created by researchers, respondents or others. The ethical issues that arise with visual data are similar to those that emerge from text-based data (Gillian, 2001), with an extra theme arising as respondents become visually identifiable (or potentially identifiable) (Wiles et al., 2008). Importantly, individuals often appear to want to be identified in photographs and videos, something that similarly also emerges in text-based research (Wiles et al., 2008; Grinyer, 2002). This happens if people argue for their right to be made visible (Wiles et al., 2008; Cremers et al., 2016). Moreover, visual data could be altered by pixelating or obscuring faces to preserve anonymity, but this will result in data becoming less meaningful and is therefore not desirable (Prosser & Loxley, 2008; Sweetman, 2008). In this Deliverable 1.2 visual data was collected for the purpose of revealing more about a certain phenomenon than text can do alone, so we aim at publishing and presenting unadulterated visual photographs and film (Sweetman, 2008; Knowles & Sweetman, 2004).

With respondents who wanted to participate in the visual research, we had an extensive discussion explaining the purposes of the research, the images that will be taken, the process of consent for obtaining and using specific images/films and the plans for dissemination (Gillian, 2001). They all have provided us with a second written informed consent for both the collection and dissemination of visual material (Wiles et al., 2008). Adolescents aged under 16 years old and willing to participate, provided written informed consent from their parents. We used an ethics of care approach in which ethical decisions are made on the basis of care, compassion and a desire to act in ways that benefit the individual or group who are the focus of research (Wiles et al., 2008). This is an often-used approach in visual and participatory research where researchers develop close and collaborative relationships with respondents (Pink, 2020; Pink, 2003; Pink, 2006; Gillian, 2001; Wiles et al., 2008; Prosser, 1998; Edwards & Mauthner, 2002). The development of such relationships enables mutual trust and the taking of photographs and film that emerges from collaborations between researcher and respondents (Pink, 2020; Pink, 2003; Pink, 2006; Prosser, 1998; Renold et al., 2008).

2 The vulnerability paradox: the COVID-19 crisis response in nursing homes & schools

In this chapter, we present our three sub-studies. Our first sub-study constitutes a multi-country research in the Netherlands, Finland and Ireland about the COVID-19 crisis response in nursing homes during the hot phase of the pandemic (Chapter 2.1). The second sub-study is an in-depth case study in a Dutch nursing home about COVID-19-related trauma and the need for organizational healing (Chapter 2.2). Our third sub-study assessed the COVID-19 crisis response in secondary schools in the Netherlands, Finland, and Ireland (Chapter 2.3).

2.1 Sub-study 1: Nursing homes governing the COVID-19 crisis

2.1.1 Introduction

It has been over two years since the SARS-COV-2 (COVID-19) outbreak in Wuhan resulted in a world-wide pandemic. The virus and the mitigating responses have since been distorting all aspects of human life. Since the crisis situation is still evolving, the **long-term societal impacts** of the pandemic and the associated new norms are still subject to investigation. While there is a significant body of uncertainties regarding the pandemic to date, from the very beginning onwards, there was a clear scientific consensus that **some populations are more at danger than others**. At the beginning of the pandemic, older people and individuals with pre-existing medical conditions have been identified as most vulnerable to COVID-19, similarly to previous coronavirus outbreaks such as SARS or MERS (Palacios-Cena et al., 2021). Unfortunately, the prognosis was correct; the past two years have shown the elderly displaying larger incidence of infections, more adverse medical outcomes and significantly higher mortality rates than the rest of the population.

One population among the elderly has emerged as the most devastating sufferers of the pandemic, and that is the long-term care facility (LTCF) residents. LTCFs – also referred to as nursing or care homes – are the formal dimensions of the European care service system which provides long-term assisted living for the elderly in need with permanent care staff. Only a few weeks into the pandemic, horrifying outbreaks characterized LTCFs all over the world. Despite nursing home residents representing only 0.7% of the European population (2.9 million; ECDC, 2021), around 40% of all COVID-19 related deaths occurred in nursing homes in Europe (Comas-Herrera, 2020). While these numbers are terrifying, these statistics are nowhere near capable of capturing the oftentimes impossible battles that care home residents and professionals endured. Indeed, inquiries into previous outbreaks like SARS and H1N1 showed how qualitative methods can explain the gap between epidemiological models and social realities, how certain interventions translate to practice and why these responses might work or fail (Leach et al., 2020; Wolff et al., 2018). This is because outbreaks like COVID-19 are not medical disasters only, but can additionally be considered social events that greatly disturb our social order. Meanwhile, the course of an outbreak closely depends on our beliefs and associated actions (Teti et al., 2020).

Despite LTCFs being the hardest hit sector in the COVID-19 pandemic, there are only a small number of qualitative inquiries on the topic world-wide (Palacios-Cena et al., 2021). These studies might focus on the experiences of actors in the nursing homes, such as the residents (e.g. Van der Roest et al.,

2020; Levere et al., 2021) their relatives (e.g. Wammes et al., 2020), volunteers (e.g. Fearn et al., 2021), nursing home directors (e.g. Marshall et al., 2021), and in the most cases, on the nursing perspectives (e.g. Sarabia-Cobo, 2020, Rutten et al., 2021). The findings of these studies emphasize a **network of mutually dependent connections between these actors**, but also with external stakeholders from the wider health care system and a wide range of national and regional supporting and regulating bodies. These studies make it clear that the **sector's experiences of the pandemic, as well as their ability to respond to it**, were inextricably linked to the connections and procedures of the larger health-care and social system.

To design our study, we incorporated the findings of previous studies regarding the sector's dependency on various wider stakeholder networks, which led us to a whole-of-society approach. To our knowledge, this is the first study that investigates the situations of LTCFs during the pandemic from a whole-of-society approach, exploring the viewpoints of local actors (e.g. residents, family members and nurses), regional stakeholders (e.g. nursing home directors, professionals from advocacy groups and municipalities), and national stakeholders (e.g. experts from national welfare and health institutes). The aim of this study was to re-investigate the crisis of LTCFs during the pandemic while addressing the complexities of the links between LTCFs and wider health-care and social systems. We have conducted the study in the capital cities of three European countries: Finland, Ireland and the Netherlands. The guiding research question was "How did the local, regional and national stakeholders within LTCF networks experience the COVID-19 crisis situation over time?".

Furthermore, while previous studies only looked at the times of the pandemic in separation, we looked at the era in continuity, as follows. In order to gain an understanding of the state of the sector when it was hit by the pandemic, we asked "How did the sector's pre-existing difficulties affect the experiences of nursing home networks in the COVID-19 crisis situation?". To gain an insight into the current situation of the sector we posed "How did the cumulative effects of the pre-existing issues and the COVID-19 pandemic affect the mental and physical state of the individuals involved?". And lastly, in order to contribute to the discourse of the future of LTCFs we investigated "What are the experts' and professionals' self-identified needs necessary to mitigate the consequences of the cumulative effects of the pre-existing issues and the COVID-19 pandemic?".

2.1.1.1 LTCFs prior to the pandemic - The invisible social welfare scheme

While the devastation observed in LTCFs during the pandemic is unprecedented, the sector was characterized by great difficulties prior to the spread of the COVID-19 outbreak already. Shortly before the pandemic, the European Social Policy Network brought together experts in long-term care from 35 European countries, and the produced report, in conclusion, termed the long-term care sector an 'invisible social welfare scheme' for various reasons (ESPN, 2018). Foremost, the report highlights that in most European countries long-term care is not a distinct social policy, and the responsibility for LCTF provision is divided between health and social care services leading to horizontal fragmentation. This horizontal division was further accompanied by vertical fragmentation; while some services are provisioned and funded nationally (e.g. General Practitioner visits to LCTFs), others remain governed regionally or locally (e.g. admission criteria). Experts from ESPN argue that this horizontal and vertical fragmentation led to underdeveloped formal services across Europe, simply because no institution is clearly responsible for ensuring quality of care and adequate working conditions. Consequently, nursing homes are disconnected from the wider health care system and don't have clear institutional

networks that help them access the medical supply chain or expert communication channels. Another consequence of the underdeveloped nature of LTCFs is that there were not enough spaces for older people in need. Since the supply can't make the demand, Europe has been observing the continuously growing privatization and marketization of the field. This adds another dimension to both vertical and horizontal fragmentation in provisioning.

While the aging European discourse brought the above mentioned challenges of long-term care into light, the associated policies were mainly concerned with the rights of the elderly in care (Bouget et al., 2017). The lack of policy attention on the workers employed by the LTCF sector (4.5 million workers in the EU; Eurofound, 2020) is another important rationale for the term 'invisible social welfare scheme' (ESPN, 2018). This is a great neglect considering that nursing is argued to be one of the most stressful professions, characterized by high staff turnover, absenteeism, burnout (Harrad & Sulla, 2018) and twice as high suicide rates as in the general population (Davis et al., 2021). Burnout is argued to be more prevalent among nurses in LTCFs as compared to those employed by other healthcare organizations due to the above mentioned issues in provisioning (Leskovic et al., 2020). Studies from various countries show that 30-50% of LTCF nurses experienced burnout already pre-pandemic (Neuberg et al., 2017; Leskovic et al., 2020). All these problems together resulted in a sector characterized by 'chronic understaffing' globally (McGilton et al., 2020). However, high burnout prevalence not only leads to understaffing, but it has significant consequences on the elderly too as it is considered to be one of the most significant threats to patient safety and the quality of care (Neuberg et al., 2017). While these issues were not yet present in the popular discourse in Europe until March, 2020, the COVID-19 pandemic introduced LTCFs and revealed their devastating realities to the public.

2.1.3.2 The silent massacre

The COVID-19 pandemic put tremendous pressure on the long-term care sector, exacerbating the already pre-existing financing and staffing difficulties (Sarabia-Cobo, 2020; Van der Roest et al., 2020; Wammes et al., 2020; Levere et al., 2021; Marshall et al., 2021; Rutten et al., 2021). Just like prior to the pandemic, there is a general view that care homes have been overlooked and abandoned by governments during the COVID-19 pandemic (Cousins, 2020). Medical supplies such as Personal Protective Equipment (PPE), intravenous therapy, but even basic medication like Ibuprofen were solely reserved to the national health care systems providing for hospitals only. This distributive injustice – a term adopted from health care ethics (Summers, 2009) -, along with the then common practise of keeping as little number of people in hospitals as possible, quickly led to the terror experienced by nursing home residents and workers. This hospital-centric approach to crisis governance reduced the function of nursing homes into 'venues for discharge' instead of an environment with urgent need for protection. With lack of infectious surveillance protocols being in place in European nursing homes at the time (ECDC, 2021), member states continue(d) to fail to address the issue of nursing homes (Comas-Herrera et al., 2020). This resulted in experts terming the governance of the pandemic 'ageist', and this devaluing effect of older people by governments rapidly spread to the public discourse too, like that of the circulation of the #BoomerRemover hashtag to ridicule the overrepresentation of COVID-16 related deaths among elderly (Skipper & Rose, 2020). Consequently, the carers of these older people felt devalued too, a long-lasting reality of nurses in long-term care (McGilton et al., 2020).

Only the outset of extensive media coverage on the 'silent massacre' (Privitera, 2020) of nursing home outbreaks brought the desired public attention. However, despite the access given to the medical

supply chain, nursing homes continued to struggle with crushing outbreaks until the vaccination rollout covered most residents by February/March, 2021. The practice of imposing visiting bans increased the pressure on the sector, leaving residents socially and emotionally isolated resulting in serious detriment in their physical and mental conditions. That in turn put a tremendous increase in the work-load of workers, and further made them the patients' sole source of emotional and mental support. While outbreaks are significantly less fatal ever since the vaccination rollout (ECDC, 2021), the sector is still facing serious difficulties which disallows giving space to heal from a long period of tremendous emotional and physical strain.

2.1.2 Methods

For this study we used a qualitative design based on a variety of data collection techniques, such as in-depth interviews, observations and focus groups. We conducted 66 interviews, 2 focus groups, and visited two nursing homes in Ireland, two in the Netherlands, and one in Finland. Interviews were conducted online in English or Dutch via Zoom or Teams, and lasted for about 60 minutes each. Focus groups were also online and lasted for two hours with three participants each. Here we allowed for open discussions among the participants, while making sure that all topics of interests are explored. Interviews and focus groups were audio recorded and were transcribed using NVivo. Respondents were detected and approached online, the response rate was about 20-30%. During our fieldworks, we used the locations' physical spaces to facilitate the participants' memories and storytelling of their experiences. Either notes or audio-recordings were taken, depending on the possibilities. We have chosen Ireland, Finland and the Netherlands for various reasons. Finland had one of the lowest COVID-19 related deaths to date, and also one of the lowest deaths in nursing homes as compared to the total death rate (33%) (Comas-Herrera et al., 2021) and the lowest in Europe. Ireland and the Netherlands experienced fairly high death rates, and the proportion of nursing home deaths are the highest in Europe (51% in both countries). Finland has one of the lowest private long-term care sectors in Europe (25%), Ireland's private sector is significantly bigger (80%), while the Dutch sector is 100% private (see Table 1). On the other hand, the countries are comparable because they are all part of the high income member states of the European Union.

	Population	Individuals living in Nursing homes	Proportion of Private Health Care Providers	Deaths in Nursing homes	Proportion of deaths in nursing homes
Finland	5 million	40.000	25%	490	33%*
Ireland	5.5 million	30.000	80%	2970	51%*
Netherlands	17.5 million	115.000	100%	6500	51%*

*Table 2: Nursing home estimates from Finland, Ireland, and the Netherlands derived from our interviews. *Comas-Herrera et al., 2020*

Generally, the project was interested in individuals' perspectives who were in any way concerned or affected with nursing homes during the COVID-19 crisis response. Both purposive and snowball sampling were utilized. Some participants were detected, selected and approached online for their

involvement with crisis management (purposive), and some were suggested by existing participants (snowball). Respondents can be grouped into one of the following levels of the whole-of-society approach; national, regional and local. Annex A provides a detailed list of the roles and organizations of the participants of Ireland, Finland, and the Netherlands.

National stakeholders are individuals who operate nationally and are mainly involved with advising and writing guidelines. They normally work for or have close contact with the government, and mostly they don't possess direct connections to the field. The total number of national respondents is 21. Regional stakeholders are mainly concerned with supporting the implementation of the guidelines. They have direct contact with both national and local stakeholders. The total number of organizational respondents is 12. Local stakeholders are the ones who are present in the nursing homes such as nurses, head nurses, residents and family members. The total number of local respondents is 39.

Ethical clearance for the study was obtained from the HEROS Ethics Committee, the VU University Ethical Committee (reference number RERC/21-06-1) and the The Royal College of Physicians of Ireland Research Ethics Committee (RCPI REC). Our research was further approved by the Helsinki City Administration in Finland. Data was collected between September, 2021 and January, 2022. Digital consent was given via mail prior to the interview, or verbally during the interview. During fieldworks, written consent was given at the beginning of our visits. We started the study by conducting a literature review in order to create a topic guide for our interviews. Interviews were in-depth and semi-structured. First, we were interested in a brief introduction to our participants, their position and organization, and an explanation of how they are related to COVID-19 crisis governance. For most cases, this question alone was enough to engage in an hour long discussion with some probing questions. The topic guide was used to check if all desired topics were discussed.

The different questions can be grouped into two categories for which we built on the framework presented in Chapter 1. The first one was Collaboration, Coordination and Decision Making, which involved questions related to the mitigation and governance of COVID-19 and the associated issues, approaches and solutions. The second part of the topic guide is referred to as Vulnerability and Risk Perception, which investigated the consequences of both COVID-19 and the mitigation strategies on the LTCF network, such as the mental health of workers and residents or the changes in staffing difficulties.

2.1.3 Results

Our analysis has yielded eight themes. In order to present the results in the clearest structure possible, we have chosen to guide the organization of the themes in three final categories (see Table 2). We created the category 'General findings' to discuss two overarching themes; 'Going to war' and 'It's all about the nurses'. Next, in the category 'Governance issues', we discuss management issues prevalent prior to the COVID-19 crisis that influenced the nursing home networks' abilities to react to and withstand the pandemic. This category holds three themes; 'Delay in setting up communication channels', 'Delay in adequate resource distribution' and 'Increased workload and the associated staff shortages'. In the third category 'Consequences & Desired solutions', we discuss the consequences of both the pre-existing difficulties and the pandemic and we assess the self-identified needs of the experts and professionals to mitigate these consequences. This category contains the themes 'Trauma and PTSD', 'The great Resignation' and 'Personal and Professional Pride'.

Category	Themes
General Findings	It's all about the nurses Going to war
Governance Issues	Delay in setting up communication channels Delay in adequate resource distribution Increased workload and the associated staffing difficulties
Consequences & Desired solutions	Trauma and PTSD The great resignation Personal and professional pride

Table 3: Categories and themes emerged during data analysis

2.1.3.1 General findings

We have chosen the Netherlands, Finland and Ireland because they represent Europe's lower and higher nursing home to total population death ratios. We aimed at choosing countries with different population counts, varying COVID-19 wave starting points, lengths and intensities and differing long-term care provisioning and private to public nursing home ratios. Perhaps our first and most important finding is that despite the significant differences between the countries' infection and death rates, we found that the same themes emerged in all three capitals. While the work environments of our participants further varied (e.g. number of residents or COVID-19 related deaths on their ward, etc.), surprisingly, there was little variation in the reported experiences between the nursing homes too. Hence, the findings presented in the whole results section represent observations from all countries, unless specifically stated otherwise. In our general findings category, we gathered themes that set the scene and provide indications for the structure and foci of the more in-depth sections of the following results sections. In 'It's all about the nurses' we discuss local, regional and national perspectives. Then, in 'Going to war' we discuss nursing home networks' first reactions to the pandemic.

It's all about the nurses

The adopted whole-of-society approach (as presented in Deliverable 1.1) allowed us to learn about perspectives from local, regional and national levels with significant variations in the participants' roles, tasks and experiences during the pandemic. Interestingly, however, the identified difficulties, the desired foci for improvement, the lessons learnt and aspects of regret and gratitude clearly aligned among our participants from all societal levels. While residents, relatives and nurses often expressed criticism regarding the approaches of the supporting and provisioning bodies, experts from these organizations knew these critiques very well, completely understood, agreed to them and adopted them as their foci for improvement. All workers, from all societal levels worked day and night - especially in the first year of the pandemic, prior to vaccination roll-out – and slowly but surely created close ties with plenty of communication networks between each other. Hence, all our participants were very well informed about the roles and challenges of the wide range of professionals involved. At the government level individuals were writing guidelines restlessly, supporting bodies were assisting with the implementation of these guidelines and workers in the nursing homes were constantly busy with balancing care for the residents and realizing the infection control guidelines.

Perhaps the greatest overarching point of focus between all participants, including experts, residents and nursing home directors, is that whatever topic is under discussion, the core of that is the nurses themselves, for two reasons. First, the single biggest challenge for infection control and for the day-to-day operation of nursing homes identified were staffing difficulties (see further in 'Increased workload and staffing difficulties). Secondly, the gratitude and respect for the nurses working under unimaginable conditions, the sacrifices and risks they have taken motivated the majority of our participants to center our discussions around the nurses. Therefore, we adopted this clearly aligned need to focus on the nurses among all countries and societal levels, and it will be reflected in the ways in which our results are presented.

"We are also traumatized, but it would be a great shame to divert the attention from the nurses" – Expert in infection control HSE, Ireland

"Caring for your nursing staff should come first, to make sure they can care for people..." – Doctor, the Netherlands

"One thing I would never forget during that period [first two waves], the staff, they gave a hundred and fifty percent…You know, when you think that no more left to give, they opened the door for more. Unbelievable. Fantastic, fantastic people." – Head nurse, Ireland

"For me, the one thing was the sacrifice the people who worked in the nursing homes made in that they stayed living in the nursing home […] It's not to be underestimated the lengths that people in nursing homes went to to fight the pandemic. And I was linking in with people who had worked for days on end and without any breaks and dealing with outbreaks dealing with families. And you know, it was pretty hard on people. And most of the people that I worked with anyway have been truly heroic is an understatement. They've been fantastic in terms of their commitment and what they've given during the pandemic." – Director of supporting organization for private nursing homes, Ireland

Going to war

A great example to demonstrate cross-country similarities were our discussions about first feelings towards the pandemic. Participants described the February/March period as extremely scary times, with the majority of the participants using vocabulary related to going to war and being a soldier. This was especially a big topic among nurses, due to the front-line nature of their work.

"It was literally like going to war…with an invisible enemy." – Nurse, Finland

"It was something different...like complete survival mode" – Nurse, the Netherlands

"Definitely the most challenging period of my career as a nurse…so at that point I literally thought 'am I going to die?" – Nurse, Ireland

"Italy was all-over the news…I remember coming down in the lift looking at other nurses [..] all tears in their eyes…and you just looked at each other, and there were no words, we were just terrified." – Nursing home director, Ireland

On top of extreme fear, participants described great unpreparedness. While it was already known that older people were the most vulnerable medically to COVID-19, there was very little information at the time of the disease's presentation in the elderly. The general guidance was that any change in the conditions of older people should justify suspecting a positive case of COVID-19. With tests being unavailable at the time, this caused incredible stress and paranoia among the residents and the workers.

2.1.3.2 Governance issues

> *"There's no health care anywhere else in the world, you know, only in the hospitals. That's the way it is historically and culturally." – Expert in Infection Control and Prevention, Ireland*

Here, we will discuss the effects of the pre-existing challenges of the LTCF networks on the participants' difficulties, limits and abilities to withstand the COVID-19 pandemic. These are related to their traditional disconnect from the wider health care system and the associated effects of the hospital-centric approach to the early governance of COVID-19. This category emerged from the clear alignment in participants discussing some of the pandemic conditions as by-products of the general, long-standing challenges of the sector. Again, this appeared to be a very clear theme that emerged from all countries and from all societal levels. In the following sections we will discuss three sub-categories; a delay in setting up communication channels, the injustices of resource distribution, and increased workload and the associated staffing issues.

Delay in Setting up communication channels

Most participants reported that the general state of unpreparedness and fear was independently dealt with within their organizations in the first 2-6 weeks, when communication channels to and from institutional and supporting organizational bodies were finally established. This caused incredible stress in the nursing homes, with some devastating consequences which will be discussed later. While generally participants understood that the delay was due to the uncertainties at the time, some lost trust in the supporting organizations, as demonstrated by the following quote:

> *"The municipality just offered psychological services to our workers [November, 2021], but we said no. They are too late again, just like they were too late at the beginning of the pandemic when we had to sort out everything by ourselves". – Head nurse, Finland*

Later, guidance came in every single day, through mail or video calls, depending on the nursing homes, later once or twice a week. However, this was not without issues. Nurses and other workers were generally happy to receive guidelines, since they have the potential to eliminate the stress and paranoia so often experienced at the time. This also helped them dealing with the huge responsibility they felt for their residents. However, most participants complained that the guidelines changed overnight and sometimes they were inconclusive.

> *"With the guidance changing all the time I kept on thinking what I was doing wrong." – Nurse, Ireland*

While this was also generally accepted and understood due to the evolving nature of the crisis situation, some inconclusive guidelines were regarded as issues of governance. Participants described that the regulatory and supporting bodies were not clearly assigned to nursing homes. Guidelines came from national bodies, regional municipalities, city administrations and later from the sudden formation of local crisis management teams. Sometimes different regions had different rules, however, it was not always clear which authority residential homes fall under. Hence, there were plenty of occasions where one body required a practice e.g. in isolating patients with positive COVID-19 results, while others contradicted it. This further resulted in insecurity, even regarding clear rules, and a general lack of confidence in official guidelines.

> *"Sometimes nurses call us with the most obvious questions. It seems that they just want reassurance by a human voice instead of just another piece of paper." – Supporting staff member from local health care center, Ireland*

However, the delay in communication is not only related to communication channels between nursing homes and supporting organizations but between nursing homes and the media and public too. The consequence of this is what our participants referred to as the 'blame game'. Early outbreaks quickly led to judgemental media and government reports, in which nursing homes emerged as the scapegoats responsible for their outbreaks and associated deaths. As a Finnish nursing home director explains:

> *"When the first outbreaks came, the media was very angry and very aggressive…whose fault is it? What did you do wrong? Why is it your nursing home? And meanwhile in the hospitals it's like clapping, [they are like] oh, you did such extremely good work." - Nursing home director, Finland*

While this negative image of nursing homes in the media was only prevalent during the first few months of the pandemic, the 'blame game' did not stop. We discovered nursing homes under investigation by independent regulatory bodies, after family members of passed relatives reported them, which is not an uncommon reality now for nursing homes. While of course the relatives also felt their rights were abused (e.g. during an outbreak with limited numbers of workers, nursing homes did not always have sufficient time to inform relatives about the states of their dying family members). However, these investigations seriously undermine the workers' feelings of appreciation. Perhaps the most surprising finding came from an Irish expert in elderly care, who explained many people working in this sector fear the end of the pandemic. They generally believed that at this point in time the blame game will actually hit hardest, and some workers even leave the sector for this reason.

Delay in adequate resource distribution

On top of the problems with poorly established communication channels, workers also struggled with medical equipment. Guidelines were many times not in line with the available equipment of the nursing homes. Injustices in resource allocation were one of the few topics that showed variance between countries. In general, Irish and Dutch respondents reported greater resource scarcity as compared to their Finnish counterparts. In both Ireland and the Netherlands, the general strategy at the time was reserving all national resources to the hospitals, leaving nursing homes and workers having to locate and purchase PPE by themselves. While the outcome of nurses working unprotected was the same in both Ireland and Netherlands, it was not understood as a deliberate act from the HSE. Towards the RIVM, however, there were clearer feelings of blame by nursing home workers. In Ireland,

in the early phases, the national Health Service Executive (HSE) also controlled the private, for-profit medical supply chains. This led to instances where while supply was available, nursing homes could not access it. In the Netherlands, instead of controlling the market, the National Institute for Public Health (RIVM) released guidelines that suggested that protective equipment was not necessary in nursing homes, only in hospitals.

> *"One of our employees who had just worked unprotected for a long time in a poorly ventilated department with people who all turned out to have corona […] ended up in ICU and died. And my colleague told me that she had really begged for a test in the days before and had also been told well, don't whine, keep working, because that was the policy. And that is how it went in all the organizations in the first wave." – Nursing home director, the Netherlands*

> *"The HSE would tell medical providers to prioritize public services, mainly hospitals, later public nursing homes, as opposed to private providers. This led to serious shortages in nursing homes - particularly private ones – in March-April 2020. They did not have ibuprofen, oxygen, IV, or PPE. Result of this was that they were sending residents to the hospitals for basic treatments like IV, and then bringing them back when testing was still unavailable. This is how the outbreaks started in nursing homes." – Expert in Infection Control and Prevention, Ireland*

Consequently, resource scarcity and the associated tragedies were major topics in both the Irish and Dutch discussions. As the top quote demonstrates, many experts and field workers believed that equipment shortages and the nursing homes' inability to provide care on site were the main reasons why outbreaks swept across the sector. Accordingly, by May, national health services realized that the hospital centric approach led to serious issues, and started to supply nursing homes too. Finnish experts explain how they had the opportunity to learn from other countries since the first wave hit with a slight delay in their country, which was the primary reason respondents explained why equipment shortages in nursing homes were not as prevalent in Finland. While from May on medical equipment was available to nursing homes in all three countries, there was and is still disproportionately low support for private nursing homes to date. The lack of resources further resulted in some heart-breaking realities and dilemmas as demonstrated by the following quotes:

> *"We had two oxygen tanks, so for 24 hours we had to decide who to give oxygen to. It was tough, we had two very sick residents but plenty more who could've done with [oxygen]." – Nurse, Ireland*

> *"The guidance came that we have to 'bag' the passed residents, but we didn't receive these special bags. So we were wrapping them in different bin bags we found on site. It was terrible." – Nurse, Finland*

> *"I actually have the idea that the 33 people who died in this nursing home, it was due to the lack of face masks." – Nurse, the Netherlands*

Increased workload and associated staffing difficulties

All participants from all levels reported that nursing home workers experienced a significant increase in their workload, for various reasons. Putting PPE on and off takes a lot of time and it is also much more tiring to work in them. A Finnish nurse for example drew attention to the impossible task of

assisting residents with showering in full PPE, how the goggles steam up, and how humid it becomes under their plastic medical gowns. Reading almost daily changing guidelines and making sense out of them also requires great effort.

> *"But the one thing is the workload is really bad…I am gathering some information from my colleagues. Also, we are also discussing in a group. The work load has maybe doubled than it was before." – Nurse, Finland*

Furthermore, with closing nursing homes down, workers dealt with everything that traditionally supporting staff or visitors do. Not only all the emotional support, the conversations that is oftentimes done by visiting relatives, but the roles of visiting professionals - such as priests or end-of-life practitioners, mental health practitioners, physiotherapist, but even the singing group, the drama group, the bingo and quiz nights - were suddenly all met by staff alone.

> *"No one was allowed in…there was a man who used to go to confession every week, and he was dying. He kept on saying "I can't die, I can't die, I need to see a priest". So we got the priest on Zoom, and he had nothing to confess, he was pure but he got his blessing and he literally died in two minutes. I will never forget it, I will never forget it" – Nurse, Ireland*

While these factors all contributed to increased workload, the main reason reported was that the already understaffed sector now struggled with even higher levels of staff turnover and absenteeism. Some nurses held second jobs, which made it impossible for them to isolate themselves to protect the elderly, and quit. Many had vulnerable relatives, such as parents to take care of at home, immunocompromised partners or small children. Plenty of nurses themselves would fall into risk groups too. Workers from migration backgrounds would get stuck in their home countries or just decide to move home, for example to take care of their relatives.

> *"I think the same problem is there all the time, because especially the wards for the elderly, they are almost all the time understaffed. There are not enough nurses. It's always busy there, and especially when this kind of a crisis situation comes. It shows just that there is not enough people working". – Nurse, Finland*

In all countries a strong support network was quickly organized to recruit nurses to cover each other's sick leaves and quarantine, however, this evolved very slowly and this support network didn't spread to private nursing homes in Ireland and Finland. In the Netherlands, nursing homes made use of external flex workers to cover gaps in the schedule. However, volunteering to cover shifts in other nursing homes also had its challenges, as the following quote demonstrates:

> *"I volunteered in a ward with a COVID outbreak in March, 2020. I just arrived there, I had no idea what to do, how to wear the PPE, who are the residents, or the workers…but no one had time for me, they were just so busy. But this is an issue in social care, everyone is always so busy, there is never time for someone to explain everything to you. I was just so confused…I kept on asking myself question, like shall I clean this now, it is important, but is this my first priority?" – Nurse, Finland*

2.1.3.3 Consequences and mitigation strategies

The second theme concerns the consequences of the pandemic and the respondents' self-identified needs to mitigate these consequences. Here three sub-categories emerged. First, we will focus on the mental health impact of our respondents and their accounts related to trauma and PTSD. Then, we turn to the topic of 'the great resignation' to describe the reasons why many nurses decided to leave the field during the pandemic and discuss what are the major governance needs that could stop the mass exodus. Lastly, in 'personal and professional pride' we will discuss the workers' changed perception of their roles and their needs for appreciation.

Trauma and PTSD

We found extremely alarming accounts of the collective mental health of all participants, residents, family members, nursing home workers and even the experts. However, here again, most discussions with participants concentrate on the nurses among all. While Finnish respondents also talk about trauma and post-traumatic stress disorder (PTSD) among health workers (and residents), the discussion seems greater in Ireland and in the Netherlands – which is the second and last major difference observed between the three countries. When we asked participants regarding the observed difference, Finnish respondents praised their culture for good practices of emotion regulation. Regardless of these cultural differences, we found great levels of concern and investment into learning about the nurses' general mental health by the institutional/organizational experts from all countries. While experts from these societal levels find it very important to not steer the conversation away from the nurses, it is also very clear how much they suffered in the pandemic. All our participants worked day and night, answered every phone call from nursing homes at night, on weekends and on Christmas Eve. Regardless, they all reported feelings of guilt for not doing 'enough'. Experts in this study displayed very high levels of emotional involvement, which was acknowledged by nurses and relatives too.

> *"And yet I felt a fraud because I wasn't out there on the frontline. I was sitting here in my office trying to be as helpful as I possibly could be. And there was a moral injury in this and a sense of fraud, that I'm not doing enough." – Expert in Infection Control, Ireland*

The traumatic experiences of workers in nursing homes show a much more diversified picture than that of the experts. Some trauma was related to the pandemic alone, like fears of contagion and witnessing the deaths of many residents at the time, or having to hold a tablet screen in front of a dying person so that he can get his blessing by a priest. Other sources of trauma were related to the effects of governance issues discussed above, like for example choosing who to give oxygen to. However, for most cases trauma is the consequence of the cumulative effects of both COVID-19 and the governance issues. The following account of a nurse shows the emotional exhaustion and desperation that an outbreak leads to in an understaffed nursing home:

> *"I don't remember much…but I remember one Saturday afternoon, and I was exhausted, really tired, just sitting at the kitchen table and I just couldn't stop crying…16 of our residents were going to pass…they were that ill, they were barely hanging on and we were understaffed […] I was hysterical so I said you know what I can do, they need comfort, they need touch, they need family. So I ringed their families, and 15 out of the 16 came, they came in, they stayed in all Saturday and Sunday, they were aware of the risks. They could help with for example giving them water, and that was good*

because we could take care of the other residents [...] And at the end, all of those residents survived." – Head nurse, Ireland

Experiences like these, involving very difficult decisions characterized by great risk and responsibility were very common among our interviewees. However, perhaps the most heart-breaking aspect is that they have been under this pressure for a very long time, with no space to reflect or heal.

"One nursing home director called me to tell me he is quitting because he started hearing voices at home…voices of residents dying in his apartment." - Expert in Infection Prevention Control, Ireland

"The PTSD among workers is so high…No one had time to reflect, we're still awaiting debriefing…we need some national healing somehow." – Expert in Infection Prevention Control, Ireland

"It is still a trauma. Three weeks ago [October, 2021] we heard it's corona, we got that tense feeling again. […] At the moment it does not feel like war time anymore, but it is not normal either. I wouldn't even say recovery." – Deputy Head Nurse, Finland

We found that oftentimes our interview was the first occasion where nurses and experts were given a space to reflect on their experiences. While many workers argued that they prefer to talk about their emotions with colleagues simply because they understand better, it was clear that having to explain aspects to a non-professional researcher awakened unexpected emotional reactions. Many of our participants, especially those who were part of a focus group with fellow colleagues, argued that the interview was very useful in understanding, verbalizing and connecting to their feelings regarding the difficulties they've been facing throughout the pandemic. Hence, there is a clear need for guided, collective trauma processing. While our participants preferred group therapies with fellow colleagues, individual needs should be accessed.

"In terms of trauma processing for me, I think, it would be a good thing if the RIVM admitted that they were wrong." – Nurse, the Netherlands

"I think the best way is to talk about it with people who were there and just understand what it was like. That's what we have here with each other and that's of course very nice." – Nurse, the Netherlands

The great resignation

So far we have discussed a sector characterized by great difficulties deriving from both the pandemic and issues of governance, leading to a field full of emotional exhaustion and trauma. A direct consequence of this is that many workers are leaving the sector, making nursing one of the major fields where the 'great resignation' has been observed during the pandemic. In general, participants reported an extreme increase of workers leaving the sector.

"There are so many people leaving…nurses can't take the stress anymore plus they can earn more money in Lidl or Aldi…nursing home directors give up their decades old family business because of all the blame"– Expert in Infection Prevention Control, Ireland

"Yeah, the organization treats us well, very well, no equipment shortage, but [there is a high] workload. Yeah the workload and low salary. What I see more and more in front of me is a lot of nurses leaving because of this." – Nurse, Finland

"Just pay the nurses, instead of clapping them!" – Regional Nursing Support, Ireland

The general reasons for exiting as seen in the quotes above are too much stress, workload, (fear of) blame and the low salaries that characterize the sector. As the quote above demonstrates, if retail work can yield better financial outcomes than nursing, then heightened levels of stress deriving from the crisis situation might make changing careers a logical decision. Low salaries also force nurses to hold second jobs, and we discussed above how second jobs and all the associated social contacts made nurses 'unfit' to protect the elderly and had to quit. Our respondents also discussed how the LTCF field is a traditionally female job – even more than nursing in other nursing sectors – , with many of the nurses working part time while providing informal care at home to a relative. May this relative be a young child, an immunocompromised adult or an elderly member of the family, many nurses could not afford to risk vulnerable people at home and decided to leave. While many circumstantial reasons were named why nurses are leaving, oftentimes these factors are related to the governance issues of the field, and particularly to the lack of funding leading to misappropriate material compensation.

Another reason was the perception of LTCF nursing as a "dead-end job", meaning that there is not much space for career growth. Expert respondents in elderly care argued for the reorganization of nursing careers by creating an organizational ladder and employment hierarchy with clear stages and goals for career advancement. The prospect for career development is also greater in hospital settings, which allowed national health services to attract nurses from LTCFs into hospitals during the pandemic. Here, experts discussed the pressing need to create better workforce policies for nursing homes in line with the conditions of those nurses working in hospitals. However, it is not only evident that individuals earn more money in hospital settings, but they also experience greater appreciation. This last issue of appreciation and the envisioned solutions will be discussed in the next section.

Personal and Professional Pride

Regardless of all above discussed difficulties, many of our participants reported greater commitment and dedication as compared to their memories from pre-pandemic. While the pandemic has shown a variety of ways it can undermine providing adequate service, plenty of respondents managed to maintain their devotion to their roles. As an Irish nursing home director explains:

"I feel deep gratitude every day…the staff here is just amazing people…and the care […] like people go to the mass and pray 'God help me to do good tasks'. We got the opportunity to do that every minute of every day…it's our job." - Nursing home director, Ireland

Indeed, nurses were overwhelmed by each other's dedication, nursing home directors admired their workers for their commitment and experts from supporting organizations glorified all the involved workers' devotion and bravery. The nurses whose situation allowed them to stay on the job now report a team spirit they did not experience before. While most are devastated by the blame experienced by external actors, they also feel greater appreciation from colleagues and plenty of resident family

members too. They were also given space to increase their self-esteem and personal pride by enduring the difficulties they did not believe they could manage.

> *"My spirit is a soldier; I know that now." – Nurse, Finland*

> *"We had an outbreak. I was under chemotherapy at the time. I have no idea how I managed it, but something 'else' was happening, because I didn't even have side-effects from my treatment." - Nursing home director, Ireland*

Not only the appreciation of themselves and their colleagues strengthened, but also the previously non-existing or non-complete connections to the wider health care system. New networks emerged between nursing homes, supporting organizations, and even - while still in its infancy-, connections between the private and public sector started to form too.

An interesting finding is that personal pride among healthcare workers and feelings of appreciation from residents and their family members, colleagues and directors can grow alongside a diminishing professional pride. Many of our interviewees mentioned a growing stigma around nursing homes and their professionals deriving from the blame games. Plenty of nurses and professionals who reported a growth in personal pride also experienced a decrease in their professional pride. It seems that while self-appreciation can arise from colleagues and close contacts, professional pride has to be supported by external actors too, such as governments, the public and the media. Appreciation for nursing homes from the public is often compared to appreciation for hospital essential workers and the appreciative public movements that characterized the beginning of the pandemic. Appreciation from the media would be to acknowledge and report the nuances of what it involves to work in a nursing home, as opposed to the simplified rhetoric of outbreaks as a consequence of neglect.

Therefore, stopping the finger-pointing and scapegoating is just one need, but equally important is to delineate the work that happens behind doors in nursing homes, hidden from the public eye. Regarding the government, the discussion is often about better work circumstances, but mainly about an increase in material compensation. Health ministries and municipalities' communication departments are also appointed responsible for facilitating appreciation from the public and the media.

2.1.4 Discussion

To our best knowledge, this is the first study to explore nursing homes under the SARS-COV-2 pandemic that incorporated the first-hand experiences of LTCF nurses, residents, family members and various supporting professionals in Europe using a whole-of-society approach. As the crisis evolved, it became clear that nursing homes were facing the most difficult task of the past two years: protecting their residents, the greatest risk group to COVID-19. Despite this crucial task, our results show great unpreparedness and a tremendous mismatch between the assigned duty and the available resources, and hence capabilities. Despite this impossible responsibility, external actors such as the public and the media targeted LTCF professionals in extensive finger-pointing and scapegoating. Not surprisingly, all this together have resulted in negative mental health outcomes among the nurses and associated professionals and in the 'great resignation' of high levels of nurses leaving the sector.

The most surprising and terrifying findings were accounts of workers being afraid of the end of the pandemic, anticipating the blame game to then actually start. Overall we have discovered a sector which was characterized by huge pre-pandemic challenges and which is now extremely exhausted and damaged by the previous two years. Regardless of all, we also found great commitment and devotion of those whose situations allowed them to remain in the sector. However, we also found that while personal pride may have grown during the pandemic, professional pride was more related to external appreciation. The lack of external appreciation experienced by our respondents continues to drive away even more nurses from the sector as we write and read.

We found little variations among Finnish, Irish and Dutch respondents regardless of the significant differences between infection and death rates, which is actually supported by similar studies conducted world-wide. A study investigating nurses' accounts of working during the pandemic in Peru, Spain, Italy and Mexico reported little variations between the four countries (Sarabia-Cobo et al., 2020). Not only they didn't report big differences between their countries of interest, they have also concluded many similar findings as our study. They describe how the initial delay in communication and inconclusive guidelines resulted in anxiety, fear and uncertainty, and how the lack of medical resources and chronic understaffing led to traumatic realities. Sarabia-Cobo and colleagues also discovered the paradox of heightened sense of duty with growing perceived professional stigma. Other similar findings further come from qualitative studies investigating nursing homes under the pandemic in the Netherlands (Rutten et al., 2021), the United Kingdom (Marshall et al., 2021; Hanna et al., 2022), Slovenia (Leskovic et al., 2020), in the United States (Fisher et al., 2021; Snyder et al., 2021) and from China (Zhao et al., 2021). The similar accounts of our and these studies suggest that to a varying extent there is some shared experience between LTCFs and their workers world-wide.

One aspect that differentiates our study from the above mentioned ones is that we also investigated how our participants envision improvement in the sector. Our findings suggest a wide range of factors that could undergo development. However, many of the points for improvement such as adequate resource distribution or the strengthening of the newly formed communication channels won't yield results if there are no nurses to act upon them. Indeed, in all countries, among all participants from the various societal levels, workforce was identified as the single biggest challenge both during the pandemic, and moving forward. Considering the nurses' perceptions on the reasons for mass quitting, inadequate material compensation stands the strongest.

As we reported above, our interviewed experts argued that nurses can earn better living in hospitality or retail. Low wages in the sector are supported by a new European survey that found that LCTF workers on average earn 21% less than the national average (4%, 18% and 21% in the Netherlands, Finland and Ireland, respectively) and 30% less than the wages of nurses in healthcare (22%, 24% and 28% in Finland, the Netherlands and Ireland, respectively) (Eurofund, 2020). Considering these numbers, it is not a surprise that many nurses decided to leave in times of heightened stress, responsibility and workload. These numbers also critically question our European societies' priorities, especially in times when the notion of 'essential worker' became significant in the public discourse. LTCF workers are now experiencing a role that is "essential, underpaid and undervalued" (Kinder, 2022). Our findings show the importance of adequate material compensation and feelings of appreciation, which suggest that wage increases could not only tackle understaffing and the associated workload issues, but there is also an urgent need to facilitate professional pride.

Among the limitations of this study, it is worth mentioning that the utilized purposive and snowball sampling could have led to imbalanced representations between countries. It is possible that simply we visited nursing homes in Ireland, which were hit harder than the Finnish or Dutch counterparts (or the other way around), which might explain the country-level differences we reported. Furthermore, the number of respondents and their roles also differed by country, which could have altered our results. Lastly, there might have been regional variations which we failed to capture while only focusing on the capital cities.

It is a well-known fact that our European society is rapidly aging, with constantly growing numbers of elderly needing care, all while the rising life expectancy is continually increasing the length of care period. By 2030, Finland has estimated a staff shortage of 30.000 in LTCFs (Finnish Government, 2020), while Ireland estimates an additional 40-45.000 elderly needing long term residential care (Nursing Homes Ireland, 2017; Wren et al., 2017). These estimates would make one assume that the fate of the LTCF sector is closely attended by governments. However, not only the findings of the current study show the opposite, but the crisis in LTCFs has been discussed since the early 2000s globally (Joint Learning Initiative, 2004; WHO, 2006). The issue is not that we lack evidence or advocatory, scientific and professional ambition, but these efforts are not being heard and acted upon (Estabrooks et al., 2020). Now, two years into the pandemic, scholars engaged in the sector warn that we might be witnessing a global social care crisis soon if great efforts and attention won't be paid to LTCFs (Devi et al., 2020; McGilton et al., 2020; Catton & Iro, 2021). On the other hand, others argue in a resigned tone that considering the pre-pandemic state of the sector, COVID-19 is just an 'other event' for nursing homes and that the social care crisis has been ongoing for a long time now globally (Estabrooks et al., 2020). While our findings reveal several issues that preceded the pandemic, the nurses' accounts show that the extent of stress, exhaustion, workload and understaffing in the pandemic is unprecedented. Therefore, while we can support the notion that the LTCF sector has been in a crisis for a longer period now, we reject the idea that the COVID-19 pandemic is just another event and we warn about the possibility of a social care crisis deeper than previously experienced.

Unfortunately, none of the quoted articles concerned the practical realization of their recommendations. Considering the vast body of knowledge that is already available on the LTCF sector, only one future line of research is proposed: investigations into the gap between scientific recommendations and practical realizations that has been disallowing meaningful advancement in LTCFs. As a final remark, we borrow the words of one of our Irish Infection Control experts:

> *"And what I hope happens is that the drive and will shall continue and will drive on even further when the pandemic ends and that we don't slip back into things just being business as usual because I do think amongst the stakeholders, collectively, people want a better system. So I see that people are behind that kind of a vision. I think if we can harness this pandemic as an opportunity... but it is really important that our political system does that as well… because sometimes even just a handful of people can take a leadership role and drive the reform agenda and the learning forward. I think that's going to be really important. And I truly hope we take this opportunity." - Infection Control expert, Ireland*

2.1.5 Conclusion

Despite the growing demand for informal long-term care Europe-wide, the sector has been overlooked and hence it faced the COVID-19 pandemic unprepared and underdeveloped. We have shown by examples from Finland, Ireland and the Netherlands that after two years of withstanding outbreaks, trauma, exhaustion and PTSD are characterizing many of the nursing home workers. These negative consequences on the nurses' mental health combined with the traditionally underpaid aspect of the field has led to the great resignation with a significant increase of individuals leaving the sector. Among the reasons for leaving, inadequate material compensation stood the strongest. The general state of the sector characterized by trauma, underpay and understaffing suggests the uprising of a social care crisis, which is in line with the warnings of a wide range of scholars, experts and professionals writing on the topic. We have identified the most pressing issues that await attention and funding: trauma processing workshops and therapies for nursing home workers on site, the attraction of new workers to the sector by fixing material under compensation and reorganizing the nursing career, and finally, addressing diminished professional pride with adequate attention and appreciation from all actors including the government, the public and the media. We must continue to mobilize scientific evidence to engage stakeholders until we reach adequate government attention and prospect for meaningful reform. We owe it to the almost million victims of European nursing homes and to the 4.5 million workers who have been working beyond their limits to save the lives of Europe's most fragile population.

2.2 COVID-19-related trauma and the need for organizational healing in a Dutch nursing home

2.2.1 Introduction

Worldwide, life has been distorted by the outbreak of the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-COV-2) and its associated mitigation strategies. Yet in the nursing home sector, the impact of the COVID-19 pandemic has been particularly damaging (Andrew & McNeil, 2022). Residents of nursing homes are considered amongst those most vulnerable to the virus, because of comorbidities and an often weakened immune system. In the Netherlands, more than half of all COVID-19 related deaths occurred in care homes during the first six months of the pandemic (Gilissen et al., 2020). These high levels of physical vulnerability are compounded by challenges such as overburdened healthcare systems, disruptive socio-economic impacts, and secondary crises like organizational traumas (Chu et al., 2021; Pappa et al., 2020). Consequently, those living and working in the nursing home sector oftentimes felt like they were carrying the burden of the pandemic.

In February 2022, the Dutch Safety Board published a report that described the country's COVID-19 response strategy, in which they concluded that the nursing home sector suffered a 'silent disaster' (Dutch Safety Board, 2022). Especially during the first phase of the pandemic, the government mainly focused on infection control and limiting the number of COVID-19 patients in intensive care units. Meanwhile, little attention was paid to nursing homes, where staff members were faced with the lack of health and safety materials and struggling with top-down COVID-19 measures causing a high number of deaths. By paying attention to the challenges and failures of the COVID-19 crisis response in nursing homes, the Dutch Safety Board is taking a first step in understanding the pandemic's disastrous effects within this sector. We want to shed light on how this silent disaster has unfolded and which scars it has left behind.

This ethnographic study examines the lived experiences of residents and employees of a Dutch nursing home in order to develop an understanding of the trauma caused by the pandemic. Ethnography allows for a detailed, all-encompassing description and analysis of the life-worlds of respondents by giving voice to those traditionally left out of the conversation (Barker, 2004). By describing care home members' and employees' experiences with COVID-19, one can understand how the pandemic could have traumatized them and why organizations in this sector can also be considered as wounded. This is essential information in order to comprehend what efforts are needed to heal them. We used the concepts organizational trauma and organizational healing as a lens to further develop this understanding. Whilst associated theories currently all focus on acute crises (Powley, 2012; Powley 2009; Powley & Piderit, 2008), we will shift the focus to the unknown and slow-burning aspects of the COVID-19 crisis.

Organizational trauma refers to the process in which external factors inflict harm onto organizational members (Mias deKlerk, 2007; Kahn, 2011). This process finds its origin within individual members of the organization but is then projected onto the organization as a whole (Mias deKlerk, 2007). Specifically when multiple members experience harm from external factors, their collective pain results in the organization itself being considered as wounded (Kahn, 2011). Healing these wounds, then, is what can be called organizational healing, a process in which organizations not only recover from trauma but strengthen themselves in the process (Powley & Piderit, 2008).

Recovering from organizational trauma is an inherently social process and cannot occur in isolation (Mias deKlerk, 2007; Dominguez-Escrig et al., 2021; Kahn, 2011; Powley, 2009; Powley, 2012). Because organizational members often collectively identify themselves with the organization and feel an urge to restore it after trauma, they are motivated to play a key role in the recovery process (Powley, 2012). The social process of recovery after trauma manifests in two common practices: empathy and collective story-sharing (Mias deKlerk, 2007; Kahn, 2011; Powley, 2009). Empathy fuels sensitivity among organizational members when responding to others' traumas, which turns them towards rather than away from each other in times of crisis (Kahn, 2011; Powley 2012). Additionally, empathy strengthens social networks within organizations, therefore strongly influencing the extent to which an organization is able to bounce back from trauma (Powley, 2012). Collective story-sharing similarly allows members to compassionately witness others' traumas (Powley, 2009). This is because sharing trauma takes the sting out of traumatic experiences and organizational members can find consolation in the thought of not being alone in their suffering (Mias deKlerk, 2007). Both empathy and collective story-sharing are thus key to understanding the degree to which an organization is able to heal. However, both these processes are grounded in leadership that allows for collectivity amongst organizational members, making leaders the drivers behind organizational healing processes (Dominguez-Escrig et al., 2021; Kahn, 2011; Powley, 2012). It is therefore crucial to understand the role of leadership in organizational healing.

The main role of leaders is to provide a safe space in which processes of empathy and collective story-sharing amongst organizational members can be facilitated (Mias deKlerk, 2007). In doing so, leaders let go of their formal leadership role and lead out of care and compassion, developing the positive dynamic in which organizational members can connect (Dominguez-Escrig et al., 2021; Powley, 2012). Besides letting go of their formal role, leaders are also crucial in removing anxiety around talking about emotions as "the leader's role is to legitimize conversations that might be considered culturally illegitimate" (Kahn, 2011: 81). By taking on this role, leaders themselves also need to participate in the collective efforts to confront trauma, and thereby must deal with their own trauma as much as other organizational members (Mias deKlerk, 2007). An engaged and empathic leader is thus the key to facilitating an environment in which formal organizational rules make place for affection with and compassion for others.

Our findings confirm the need for collectivity in responding to traumas caused by the pandemic as well as the crucial role of leadership in creating an understanding environment in which these traumas can be freely discussed and in due time, be healed. Much like the healing of a physical wound, organizational wounds 'need to be opened and cleaned before [they] can heal; the unsymbolized needs to be symbolized and experiences need to be brought into awareness, accepted and acknowledged' (Mias deKlerk, 2007: 38). With our ethnographic approach, which provides insights into the experiences of members of a Dutch nursing home, we aimed at contributing to this opening and cleaning of the organizational wounds left by the COVID-19 crisis. Furthermore, we intended to enhance theory on organizational trauma in order to ultimately learn how organizations recover and heal. With the use of visual methods, we hope to contribute to this collective process of healing by offering employees and residents the opportunity to share their stories and make their suffering heard.

2.2.2 Participatory Action Research & Visual Ethnography

Between October and December 2021, we conducted three months of ethnographic fieldwork, using participatory action research (PAR), in a small-scale nursing home located in Amsterdam, the Netherlands. Using the dynamic characteristics of PAR, we tailored our research to the specific needs and challenges of the nursing home sector (Kidd & Kral, 2005). This process of making sense of the research objective was a collaborative effort between researchers and respondents, ultimately resulting in the co-creation of the research design, data collection, and data analysis (Pearce et al., 2020). By not only developing scientific knowledge but additional action in practice (Janamian et al., 2016), PAR empowers the nursing home sector to share their concerns (Glasson et al., 2008), giving them a voice in sharing their traumatic experiences during the pandemic.

We held fifteen in-depth interviews and twenty informal conversations with the nursing home director, team leader, geriatric specialist, medical doctor, client board member, spiritual care taker, communication manager, host, the activities coordinator, receptionists, secretariat members, four (somatic) residents and their families. Interviews were semi-structured in order to guide the conversations towards their personal experiences during the pandemic as well as their perspectives on the organization's response strategy. Questions covered coordination, collaboration, and decision-making in crisis response, vulnerability and risk perception during the pandemic, and communication and sensemaking of mitigation strategies. The informal conversations not only provided additional insights into the daily experiences within the nursing home but also created a stronger connection between researchers and respondents. Additionally, through participant observation, we learned about the social and cultural context, generating rich data about the everyday life worlds of residents and employees in the nursing home.

The entirety of the field work was documented on film. Visual ethnography, which creatively expresses narratives, allows for a deeper interaction with those putting their trust in researchers to document their stories (Sandercock & Attili, 2010). By making ethnography public through the use of visuals, knowledge becomes not only interactive and emergent but additionally creative, meanwhile stimulating new forms of thinking amongst viewers (Degarrod, 2013). As researchers, we use these inherently collaborative and reflexive elements of visual ethnography to engage on a deeper level with our respondents, which helps facilitate understanding of those perspectives normally omitted from the bigger story (Goopy & Kassen, 2019; Schermbi & Boyle, 2013).

Besides the engagement benefits of visual ethnography, the use of images and film also evokes empathy and calls for social justice (Degarrod, 2013). Following this line of reasoning, the trauma that we have portrayed on film together with our respondents becomes an embodied experience for viewers rather than a mere sight. In turn, this may trigger an empathic response and, more importantly, social and collective processes of knowledge creation. Researchers and respondents become a catalyst in the process of meaning-making, as eventually the meaning of images will always lie in the eyes of the viewer (Pink, 2003). Ultimately, both the collaborative and empathic characteristics of film give visual ethnography the true potential to evoke social change.

In order to stay true to the collective nature of constituting visual ethnography, we used an inductive approach to analysis. In-depth interviews were transcribed and analysed using an open approach during which we focused on those stories respondents wanted to tell and in order to avoid researcher

bias. These themes were divided into groups and codes using Qualitative Data Analysis and Research Software (ATLAS.ti, 9th edition).

Ethical clearance for the study was obtained from the HEROS Ethics Committee and the VU University Ethical Committee (reference number RERC/21-06-1). All respondents were asked for written informed consent before recruitment, interviews, and participant observation. When recruiting residents of the nursing home, we only approached those who were generally in good health and able to give consent. We described that the goal of our research was to collect and share the stories of their experience during the pandemic. Furthermore, we explained we wanted to have their voices heard by the writing of academic and non-academic multimedia articles and the making of a film. Additionally, respondents signed a consent form discussing the ethical considerations of partaking in a visual ethnographic research, which we explained in detail in section 1.5.7.2. They were informed they would not remain anonymous and they gave permission for presenting the visuals in the film, articles, and online.

2.2.3 Findings

We arranged our findings according to the following four themes: (1) The ethics of decision-making; (2) Cultural incompatibility of infection control strategies; (3) Emotional challenges in the workplace; and (4) Reflections and future perspectives. We use the words of our respondents to illustrate our findings and engage readers with the lived experiences of members of the nursing home sector.

2.2.3.1 The ethics of decision-making

Many employees made a comparison with war when describing the circumstances in the nursing home during the first few months of the pandemic in order to be able to explain the traumas they suffered. One nursing assistant described that she felt she entered “survival mode” whenever she went to work, actively numbing herself from her emotions in order to deal with the situation at hand. The director of the nursing home described that employees were put in the middle of the horrors of the pandemic, unable to escape them because of the extensive need for care, fueling traumatic experiences amongst health care workers.

One of these traumatic experiences resulted from nursing homes not being provided with personal protective equipment (PPE), forcing staff to re-use protective gear or work without during the first weeks of the pandemic. Because of nation-wide shortages, only hospitals were supplied with the necessary means. This meant nursing homes were without PPE, putting their residents and employees at risk. One of the doctors described that the re-use of face masks resulted in various employees getting sick and having to be admitted to the intensive care unit, with one colleague of hers dying from COVID-19. This left a great impact on employees and the organization. However, the biggest impact of the lack of PPE was on those feeling responsible for the protection of others in the organization, even though they were merely following government policy:

> *“I felt very responsible for that policy. It was just such a wrong policy and eventually someone also died […] and my colleague told me that just before, she had begged for a test. But she was just told: stop complaining, keep working. Because that was the policy. […] So, that is my trauma, why did I not have the courage to say that this policy was absolutely nonsense? Why did I not protect my*

people against the feeling they now all have, the feeling that they sentenced people to death. Because that is what they did." - Director of the nursing home, the Netherlands

The trauma caused by the lack of PPE was further amplified by the number of deaths among residents during the first wave of the pandemic. During this period, the nursing home was characterized by a sense of impending doom. One resident told us that during the lockdown period, when residents were not allowed to leave their room, he quickly started to accept that more people were dying and started anticipating whether or not he would know the next person who was about to die. In the sister nursing home, half of the residents died during the first wave, leaving employees and residents with the image of empty halls. The manager of the nursing home described this image as one she has not been able to get out of her head, even though more than a year has passed. In order to somewhat halt the increasing number of deaths, the nursing home was left with no other choice than to provide the needed care even though they did not have any PPE. At the time, they felt responsible for their residents but at the same time had to carry the burden of this - in their words – 'wrong' policy.

This sense of responsibility was felt throughout the organization, with people on all levels blaming themselves for the decisions made. One respondent even described a conversation with another team leader in which they explained feelings of such responsibility for decisions the department had to make about sending people to work without protection that they wondered whether they would be on the 'wrong side' during war. Both employees and management look at themselves whilst assessing the crisis response in nursing homes instead of blaming others, such as the government, who imposed these policies in nursing homes. With the death numbers and urgent need for care rising, there was such a sense of chaos and inevitable suffering for both residents and employees, that they felt the only person to really hold accountable was themselves. Working under these conditions created a sense of fear and frustration accompanied by the feeling that they had no other choice.

"When I look back, I do think that what we did, we did well considering the equipment and knowledge we had. Looking back, I realize how difficult of a situation we were in. I do think we always kept our head in the game and did the best we could in dire circumstances. Does not make it any easier though." - Medical doctor, the Netherlands

2.2.3.2 Cultural incompatibility of infection control strategies

Both management and employees explained that the nursing home was ill prepared for the COVID-19 pandemic. With barely any protective gear, no vaccines, and very little knowledge of the crisis that was bestowed upon them, the sector was challenged to largely improvise a make-shift crisis response. This crisis response included little of the normal work conditions that normally included a focus on care, a home-like feeling for their residents, and a promise to stay by one's side until death. Suddenly, their whole approach had to be replaced by disciplined infection-prevention strategies.

One of these strategies was the temporary COVID-19 unit in what previously had served as the restaurant, set up during the first few weeks of the pandemic. Employees described this make-shift COVID-19 unit as one the most traumatizing experiences of the pandemic. The dehumanizing effect it had on residents was something they found hard to phantom, and created a feeling of being helpless and unable to resolve the situation. A nurse told us that, in order to protect all other residents, they

had no other choice than to isolate those who tested positive, even if it meant some had to see their fellow residents die in front of them.

> *"The arranged COVID unit was one big shits-how. When I went to have a look on Monday morning, there were laundry bags all over the floor, screaming residents hanging over their beds, mattresses stacked up against the wall, empty wheelchairs, and curtains clipped together. I felt like crying. My god. We cannot do this." - nursing home manager, the Netherlands*

Because of these harsh conditions within the temporary COVID-19 unit, the nursing home decided to make use of the larger unit of their sister nursing home. This, however, asked for a large compromise from employees in their standard of care as they had to transfer their residents away from the nursing home. This went against the promise made during admission that residents could stay in the nursing home until their death. One medical doctor explained that it was particularly hard for her to accept that she had to let her residents potentially die in a place where they did not know anyone, simply because there was no other choice during COVID-19. This sense of powerlessness to the situation characterized the first months of the pandemic for employees and was further intensified by the expectation that nursing homes needed to function more like hospitals to be better able to contain the spread of the virus.

In order to successfully implement this disciplinary infection-prevention approach and take more control over the situation, the nursing home received assistance from the Dutch army. The involvement of the army was meant to create order in the chaos caused by the unknown elements of the virus. One nurse explained that, with their expertise in infection-prevention and setting up field hospitals, the army was able to shift the focus to a more hospital-like mentality. Meanwhile, their presence amplified this war-like feeling among employees. Some employees described difficulty with the army's approach, which often abandoned the elements of good care and did not place the well-being of their residents in the first place. A medical doctor explained that the army had a more radical approach to care, which prioritized the safety of care-givers over the well-being of residents. This was hard on employees because of the close relationships they have with their residents. The uncertainty surrounding the virus, together with the rapid growth in the number of cases and the cultural shift in care-giving, amplified the great sense of unfamiliarity and powerlessness for employees. Besides this stress caused by the emergency prevention strategies, there was additionally a general feeling and form of comfort that the army was able to control the virus and limit the number of infections.

2.2.3.3 Emotional challenges in the workplace

The above-described circumstances took an emotional toll on employees within nursing homes. One nursing assistant described how surreal it felt to go to work during a time in which the outside world had fallen silent. While being at work, it was impossible to process the chaos in the nursing home. But she explained that when she came home, the emotions of the day came over her, thinking about her residents who tested positive, fearing they would die and she may never see them again. A nurse similarly described the overwhelming emotions employees had to deal with during the pandemic, but additionally emphasized the importance to not show your own stress when interacting with residents in order to console them. This meant that employees were often left to carry the emotional burden of the pandemic by themselves.

One of these emotional burdens was a sense of guilt amongst those who got sick themselves and were therefore unable to go to work. The nursing home sector was already short-staffed but this was further amplified by the pandemic. A doctor explained how they decided to cut the regular shift time in half because it was no longer doable for them to work such long hours due to the heavier workload of caring for COVID-19 patients and the added emotional efforts it required to provide this care. Whereas this made for increased feelings of solidarity and teamwork, whenever someone got sick themselves, they felt they were abandoning their colleagues in challenging times. Employees who had been sick during the first months of the pandemic described an internal struggle between wanting to return to work as soon as possible and being afraid to further spread the virus.

Besides these feelings of guilt, there was also a lot of fear amongst employees of the nursing home, especially during the first wave, when so little was known about the virus. In the beginning, there was ample discussion around who was going to work within the COVID-19 unit, because fear for the unknown consequences of contracting the virus meant there was a lot of tension around this task. Especially flex-workers, who also needed to work within other nursing homes, often refused to work within the COVID-19 unit, afraid to contract the virus and bringing it to their other workplaces. This meant that core staff, who felt responsible for their residents and the team, had to put their feelings of hesitancy aside, burdening them with a fear of death:

> *"I thought I might die. Suddenly, I was crying, crying. People would call me, send me messages, which made me feel very vulnerable. […] I was like that for two days, could not stop crying. I never experienced something like that. It was such an insane time." - Nurse, the Netherlands*

The fear to contract the virus not only manifested in a fear of death but was further amplified with another sense of guilt, that of passing the virus on to members of their own household. Responses to this included employees sleeping on the couch in order to limit the risk of infecting their spouses, or family not allowing them to be in the same room. When this, however, would not be enough to prevent spreading the virus within their households, employees of nursing homes just had to cope with this situation. A doctor explained that she felt such guilt for bringing the virus into her household because her husband got very sick, and she was lying next to him in bed where he was having difficulty breathing.

Besides these senses of fear and guilt that employees had to deal with, they were often also the ones who had to carry the burden for the emotional impacts of the pandemic on residents of the nursing home. Undoubtedly the most challenging and emotional measure for the majority of residents was the visitors ban, the closing of nursing homes for several weeks. The empty words 'visitor ban' meant in real life that loved ones couldn't be together, sons and daughters were not able to take care of their mother or father, and grandparents couldn't see their grandchildren. Most heart-breaking were the accounts in which people couldn't say their goodbyes before someone passed away. One host described it as a moment gone, a loose end that can never be tied up. Because of the visitor ban, residents could not be supported by friends or family in these times of loss, consequently leaving employees as the only ones who could guide them through these difficult times. However, most employees tried to limit contact and kept physical distance where possible out of fear for infection.

Not being able to console residents because of the distance rules meant employees often had to see them suffer from a far:

> *"You could really see residents declining. Sometimes I used to think, two weeks ago you looked a year younger. And now, suddenly, just a certain dullness. What do you do then? It makes you realize how important human contact is. It was very tough to see." - Host, the Netherlands*

Amongst family members, the visitor ban brought up the question of whether the entire closing of nursing homes was a justified measure to combat the spread of the virus. One family member told us how he saw his mother's health deteriorate rapidly during the pandemic. With tears in his eyes, he explained that after the lockdown period, his mother no longer recognized him. Unfortunately, his experience is not an exception. He, but also the daughter of a resident who died of dementia during the pandemic, posed the question whether those residents spared of COVID-19 may have died of loneliness in the meantime. Employees were the first point of contact for distressed family members, requiring additional efforts in dealing with the emotional responses of family. Receptionists had multiple encounters with angry and frustrated family members during the visitor ban. Because of the rapid decline amongst residents and the anger amongst family, there was a general consensus among employees that, even though it was an understandable decision at the time, the closing of nursing homes was inhumane and should not ever happen again.

2.2.3.4 Reflections and future perspectives

The circumstances in nursing homes during the first months of the pandemic were to such an extent traumatizing that employees expressed it was hard to share their experiences with the outside world, fearing it would be too difficult for someone who did not witness it to comprehend what nursing homes went through. It was for these reasons that employees turned towards each other during times of crisis. One doctor explained that they sat together with the medical staff one evening just to eat some pizza and ask each other how everyone was doing. She described that in these moments she felt most seen in her suffering. She also stressed that it was particularly difficult during these emotional times that they were not able to hug each other. She explained that the regular support system amongst employees was disrupted due to the staff shortages, making it even more difficult for employees to find regular support during hard times.

The increasing number of cases meant that staff constantly had to provide care where it was needed most, letting go of permanent teams. So, there were cases in which employees got sick themselves and came back to the nursing home with half their residents who had died and no direct colleagues to console them. Whereas death is not something new to employees in the nursing home, during the pandemic, employees' perspectives on death changed because of the big number of residents that died in such a short time and the fact that they were unable to give them a proper goodbye. The rapid decline of the health of residents who got infected also played a part in this new perspective on death. A doctor explained that there were cases in which a COVID-19 patient seemed fine at the end of her workday but their situation worsened so rapidly during the night, that they were on the verge of death the next morning, something she rarely had to deal with before COVID-19. The disruption of the collegial support system during times when so many residents were dying further burdened health care workers, a trauma they have yet to recover from:

"You just notice people have not recovered fully. […] People having a short fuse or getting defensive more quickly. In general, you are fine but as soon as there is another outbreak, you start seeing the scars. Someone dies of old age but all traumas from COVID start coming back for the nurses who were by their side. Another person who dies. Yes, it is a nursing home but that does not take away the pain." - Medical Doctor, the Netherlands

These scars were also visible when there were new outbreaks in the nursing homes. The sense of panic from the first wave quickly returned whenever one or more departments had to go back in lockdown. One resident explained this panic by giving an account of his morning walk during which he was confronted with a nurse. The nurse had panicky told him that he had to go in quarantine right away because there was another outbreak. In her panic, the nurse had completely forgotten to put on her face mask because, according to the resident, she was too focused on her task of getting residents in quarantine. The director and manager of the nursing home similarly describe these repressed emotions of lack of control, feeling unsafe, or being afraid amongst employees. They can sense that these feelings come back up when there are new positive cases. The manager compared it to the emotions around the loss of one's parents, feelings that will never fade and instead become experiences you carry with you for the rest of your life.

When asked what could possibly help in treating the scars left by the pandemic, employees expressed that they feel comfort in talking to colleagues. A medical doctor told us that it was difficult to share what they were experiencing in the nursing home with the outside world because it is hard to comprehend it all when you were not there to witness it. A host described that she felt there had not been a moment to collectively process everyone's traumas and therefore it was hard to find closure. She said that there was a general consensus that you could inform management of colleagues about your suffering but that she herself is not very prone to do so, needing a bit more of push. She felt it was important to have a more organized aftercare throughout the organization, based on sharing experiences and asking everyone how they are really doing. The spiritual care taker emphasized this need for a processing of collective trauma and emphasized that confrontations with death often bring up later questions that need time and discussion to be processed and answered. This was also acknowledged by the director of the nursing home, who herself explained that whilst they are trying to offer any professional help for employees, she believed people would benefit most from learning about other's trauma in order to be able to comprehend their own. Emphasizing the need to keep giving attention to the traumas from the first wave, she explained that she also sees this research as a form of recognition that everyone is allowed to have their own traumas.

2.2.4 Discussion

Looking at the circumstances in nursing homes during the pandemic, and the consequences it had on employees, one starts to understand why these experiences go beyond personal traumas but rather form a wound on the organization as a whole. Being first-hand witnesses to the gruesome effects of the virus and associated mitigation strategies, whilst the outside world was debating about whether it was merely a bad cold, left employees alone in their suffering. This was further amplified by a lack of focus on the nursing home sector in the Dutch crisis response. A focus on organizational healing may provide a better understanding of how nursing homes can respond to the traumas experienced by healthcare workers during the COVID-19 pandemic, and how to move forward. Borrowing from

physiological healing processes, organizational healing is best understood by means of a three-step process: inflammation; proliferation; and remodeling (Powley & Piderit, 2008; Powley, 2012). Below, we will explain how these stages of healing illustrate the process of trauma recovery within the nursing home and further enhance the theory on organization healing by translating it to a slow-burning crisis.

First, in the beginning of the pandemic, the nursing home was in the inflammation stage, which is characterized by the immediate care of those most vulnerable to the inflicted harm, and the supply of resources to respond to the initial harm as well as prepare for the next stages of the healing process (Powley & Piderit, 2008; Powley, 2012). The focus during this stage was on protecting residents, which asked employees to put their own needs aside. Having 'care for the most vulnerable' at the center of attention explains employees' efforts to treat residents who contracted the virus without the necessary protective gear. Additionally, it clarifies why employees were willing to let go of their care principles in order to adhere to the rigorous infection-prevention measures. Inherently related to this stage of organizational healing is an organization's capacity to learn. This means to learn from past experiences as well as from external influences, and transfer this knowledge amongst organizational members (Basten & Haamann, 2018). For the nursing home, this meant to embrace the help of the army and learn from their experience with infection-prevention in order to be able to provide this care for residents. The crisis within nursing homes was further amplified by the lack of PPE, which challenged employees to look beyond protective gear for resources needed to respond to the crisis. Allowing the army into their care system provided these additional resources, but required adapting to a cultural shift in work approach for employees. Similarly, the temporary COVID-19 unit as well as the later use of the larger unit in the sister nursing home asked employees to let go of their image of 'good care' in order to protect residents from the virus. The collaborative efforts of members of the nursing home to adapt to these changes showed great strength, as organizational learning is particularly challenging in this sector due to staff shortages and stigmas around working in long term care (Lyman et al., 2021). It is in this sense of collectivity that the nursing home takes the first steps towards healing its internal wounds, which becomes even more evident in the later stages of the healing process.

Next, in the stage of proliferation, organizational members collectively share the burden of the trauma and connect emotionally in order to strengthen internal and external relationships (Powley & Piderit, 2008; Powley, 2012). Here, it becomes clear that efforts to respond to the immediate harm of the crisis put further emotional burden on employees, calling for an extensive collective effort to help in juggling emotions. Having used the inflammation stage to respond to the immediate threat of the virus for residents, there was little time for consideration of the effects the crisis and initial response had on employees. In the proliferation stage, employees are confronted with these wounds by recognition of their own and one another's feelings of fear and guilt. This is where it becomes evident that it is the collective identification of employees with the organization that allows for the kickstart of the recovery process (Powley, 2012). This starts with raised levels of empathy towards each other and acts of collective story-sharing, turning the organization towards shared rather than individual trauma processing (Chesak et al., 2020). We saw this amongst employees through raised levels of appreciation for the work of their colleagues.

When talking about the efforts to combat the first wave, employees often referred to team-work and a sense of collectiveness as crucial to their initial pandemic response. This resonates with the idea that in order to sustain engagement in the midst of crisis-related changes, having a common goal and motivation is critical (Lyman et al., 2021). The empathy between employees was further enhanced through the practice of collective story-sharing. There was a general consensus that talking to colleagues helped in processing the situation at hand. Because employees often also felt they had to hide their own fear in order to not frighten residents, they were drawn even more towards colleagues in sharing the burden of their trauma.

Notably, these acts of empathy and collective story-sharing were not always evenly spread throughout the nursing home. Doctors, for example, were more drawn towards each other than towards nursing or hosting staff. This is logical considering the close relations they had with each other and the similarity in their experiences during the pandemic. However, in order to initiate the healing process for the organization as a whole, and with it strengthen the internal social relations, it is necessary to have this compassion for each other's trauma throughout different disciplines. This is where the crucial role of the leader becomes evident, as it is in their leadership that they can create bridges within the organization and spread the healing process across all staff (Brown, 1997).

A leader's role changes in times of trauma, as they are no longer expected to be heroes and provide all the answers but rather show vulnerability and become grounded in the collective processing of grief in the organization (Brown, 1997). In doing so, the leader becomes a servant to the healing process and initiates compassion amongst organizational members (Jit et al., 2017). We really recognized this servant and grounded leader in the director of the nursing home, who explained how employees had felt free to share their traumas with her. She additionally expressed she ought it important that these traumas were known throughout the organization, so everyone was able to act accordingly. She had noticed how everyone in the nursing home struggled with the processing of the pandemic experience and had therefore strongly suggested trauma as a focus of this research. Her vision was proved rightful during the interviews, where employees explained that even though they sporadically talked amongst each other during the first wave of the pandemic, they felt they had not looked back upon that period much. Often, the interview was the first time where employees really thought back to those first weeks of the crisis, realizing the traumatic effect it had on them and bursting into tears when talking about it. Through these efforts of the nursing home director, we can see initial success in the proliferation stage of organizational healing, suggesting that the nursing home is currently transitioning to the last phase of the healing process, remodeling, in which a wounded organization returns to previous functionality but additionally enhances protection for future harm, strengthening the organization as a whole (Powley & Piderit, 2008; Powley, 2012).

The last step in understanding organizational healing finds its roots in the idea of letting go of formal organizational structures when faced with crises. Organizational healing, namely, takes place during a state of liminality, in which organizational order is temporarily disrupted and undone by crisis (Turner, 1969, Powley, 2009). Liminality then serves in creating a temporal space in which existing structures around social and professional relations shift, and new norms allow organizational members to reorient themselves and emotionally respond to crises (Powley, 2009). This is what allows the nursing home director to act out of compassion rather than adhering to formal rules around her role in the

directory. The last stage of healing, remodelling, is then also characterized by a ritualist end to this liminal state and a symbolic departure from this temporal space (Powley & Piderit, 2008; Powley, 2012). However, whereas it is understood that the period of liminality can vary (Powley & Piderit, 2008), the above-developed theories investigate acute crisis with a clear hot phase and aftermath, whereas with the COVID-19 crisis, we can speak of a slow-burning crisis in which these phases are not set by clear borders (‘t Hart & Boin, 2001). For the nursing home, it is difficult to organize a ritualist return to a post-pandemic state of being as there is a dooming sense that the next wave could be right around the corner. This raises the question whether a ritualist end to the state of liminality is possible at all in a slow-burning crisis. Moreover, the traumas of the nursing home sector need to be shared beyond the nursing home in order to address the role of governing bodies in causing certain traumas such as the lack of PPE.

With our ethnographic film (in progress), we will contribute to this spreading of the sector's trauma and initiating dialogues around how to best prepare for future pandemics. These are crucial efforts for the last stage of organizational healing as they allow the sector to strengthen itself rather than merely returning to a pre-pandemic state. However, in order to truly comprehend how organizations heal from a slow-burning crisis, it is crucial to understand how theories of organizational healing in an acute crisis translate to a slow-burning one. Future research should therefore focus on how organizations experience the state of liminality in a slow-burning crisis and what constitutes a departure of this state for them.

In sum, organizational healing is a *collective and collaborative process* that requires *engagement and compassion* from all layers within the organization. The nursing home shows how efforts of empathy and collective story-sharing allow for the first steps of healing the trauma suffered during the pandemic. This is enhanced by the director of the nursing home taking on the role of a servant and grounded leader who allows for these acts of empathy and collective story-sharing to take place throughout the organization. A focus on organizational healing allows for the processing of the trauma of the pandemic beyond recovery and rather takes into account processes of organizational learning in order to strengthen and prepare for future crises. Moreover, an organization healing approach may provide the necessary means for the nursing home to comprehend how trauma is collectively dealt with, possibly preventing long term effects.

Our visual ethnographic research allows for the sharing of the stories of the nursing home sector to the wider public, offering ways of understanding the COVID-19 pandemic through the eyes of the long-term care sector. Using visual methods brings into question what platforms can be provided for nursing home staff and what role their voices could play in future policy making. Besides future research on the stage of liminality for organizational healing in slow-burning crises, we additionally call for more research on the experiences of nursing home employees and how these can be used to enhance synergy between the sector, researchers, and policy-makers in order to prevent future trauma.

Limitations and strengths

Our respondents were recruited within one nursing home characterized by a warm atmosphere with friendly residents, as well as a healthy working environment and good relations amongst employees and with management. This may make it more difficult to translate our research to other nursing

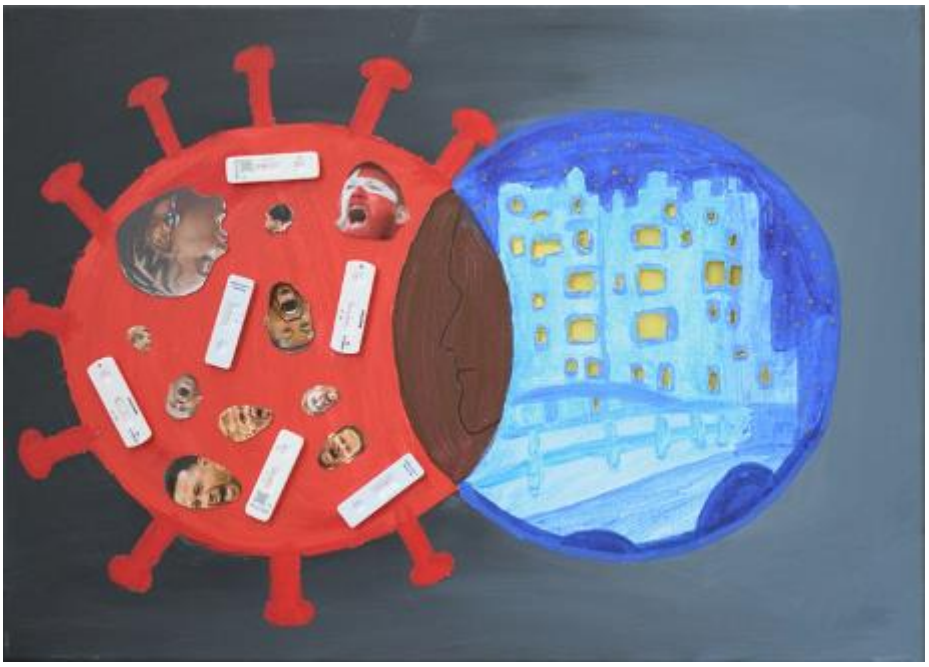
homes who lack this warm, homely characteristic and where the experience of the pandemic may have been even more devastating. Nevertheless, the accounts of trauma we encountered in this particular setting already provided useful insights that will help assist processes of organizational healing within this sector and that may serve as examples in other settings. This research focused on the somatic department of the nursing home. Consequently, this means that the experiences of residents and employees of other departments (for example with dementia) remain unknown and future ethnographic research is still required. The strengths of our ethnographic research encompass a critical consideration of the experiences of the nursing home staff during the COVID-19 pandemic and how this resulted in existing traumas throughout the organization. By engaging on a deeper level with our respondents through participatory action research, we provide insights into the complex experiences of trauma. By showcasing these experiences on film, we aim to share the devastating stories of this sector and shed light on their often-unheard suffering.

2.2.5 Conclusion

Our visual ethnographic study researched the lived experiences of residents and employees of a Dutch nursing home in order to comprehend the traumas they experience as a result of the COVID-19 pandemic. The findings can increase understanding about how the nursing home sector is suffering from the pandemic and what is needed to help them recover. We aimed to contribute to the opening and cleaning of organizational wounds by providing insights into the experiences of members of the nursing home. Nursing homes can benefit from our organizational healing approach by understanding how they can use their collective strengths in responding to the pandemic and offering employees the opportunity to collaboratively heal their trauma. Because of our use of visual methods, we are presenting our findings with text and short videos and an ethnographic film in the future. This enables us to shift the focus towards the perspectives of employees and we hope by sharing their stories we can contribute to their collective process of healing.

2.3 Sub-study 3: Secondary schools during the COVID-19 pandemic

2.3.1 Vignette: Diary of a Dutch school child during COVID-19



Picture 1: Loud and quiet

You see a black canvas with two globes on it. The blue globe represents the quietness during COVID for me. The red globe represents the loudness. You see screaming faces, noisy dreams. It is me, sitting at a table with a lot of sounds around me and a lot of things that require my attention. I am thinking: 'waah, what is happening'? It is a big contrast with the blue globe, the quiet streets, peace in your head. No appointments, less to think of. Both sides are COVID for me, it is the conflict between them that I wanted to portray.

I was 14 when the lockdown started and I had to follow education from home. It was very chaotic for me. I do not have natural light in my bedroom, so during online classes, I had to share the living room with my dad. He was working from home as well. My mom had her desk in the hallway and my brother sat in his room. When my little sister also went to high school after the first summer in lockdown, I had to share the living room with her as well. My desk stands in the left corner of the living room, next to the windows. I like that, because I had a nice view over the garden. On the desk, I have my notebook, iPad to log into the online classroom, and my phone to call my friend to discuss the class and homework. My dad sat at the big table and when my sister joined, she got a small one, in the middle of the room. There was a lot of sound when the three of us were in meetings. Sometimes, if my dad or sister were too loud, I went to sit in the kitchen, but from there I could hear sounds from my mom so that was also not a solution. With the three of us in the living room, we tried to make the best out of it. We discussed when we had important meetings and sometimes one of us would make place for the others. Then I would just follow the classes from my bed.

Routine is very important to me, I struggled with this when that fell away during the lockdown. I had to rediscover how to structure the day when you do everything at home. What worked out very well for me was going out with my sister in the morning, we went for a walk, run, or a round of skating.

Just to do something and be outside, normally we would cycle to school and now I felt like I had to do something else. I became good friends with my sister. After our time outside, I would make breakfast and eat that during my first class at nine o'clock. We tried to have a lunch break together with the whole family, outside if it was sunny, that was nice. After that, I would have another online class and try to finish my homework. If I do not write things down, make a to-do list or a schedule, my head has too much to think about. As long as I have a functioning structure, it goes well. At one point, my sister could go back to physical school, which meant that our morning walks had to stop. I did not want to go on my own. I continuously had the feeling that I had to do something for school. And if I did not do my homework because I had no concentration, I felt very bad about it. Finding this balance was a huge challenge for me.

My parents have been an important support for me. My mom motivated me to search for activities to keep myself busy. That's why I started to crochet. I did not have a lot of contact with my friends, I do not like to use WhatsApp or Snapchat, sometimes I call them but I prefer to meet them in person. My parents stimulated me to still see my friends. Me, my brother, and my sister all were allowed to form our own 'bubble,' a group of three close friends that we could still hang out with. This was nice. Still, I have the feeling that I lost some friends as I did not have contact with some of them during the lockdowns, it makes me wonder: 'do I still know you, do I still like you? Or is everything different as too much has changed?' That makes me feel lonely sometimes. Now, I notice that others who have been staying in touch have formed Snapchat groups that do not include me, but I also do not feel like asking if I can join them. I find it scary to just approach them and have a conversation. I think I forgot how to do that after all these lockdowns. I wonder how long it is going to take before I feel more comfortable talking to others spontaneously.

Secondary school student, the Netherlands

2.3.2 Introduction

In the past two years, the SARS-CoV-2 Coronavirus disease and the associated **mitigating measures have been seriously disrupting human lives around the globe**. While there are plenty of uncertainties regarding the crisis' consequences on our societal establishment, children and adolescents have long been identified as maybe even the biggest sufferers of the COVID-19 pandemic in terms of its **deep and long-lasting impacts on socio-emotional development and mental health** outcomes (UNSDG, 2020). Although young people were shown to be the least vulnerable to the coronavirus from a medical perspective, the long-lasting serious disruptions of the COVID-19 pandemic on their home and school environment, the psychological, social and economic effects on the family climate might lead to life-long negative consequences for many young people (UNSDG, 2020). Already prior to the pandemic, figures showed an alarming proportion of 18% of adolescents living with depression and/or anxiety disorders globally (UNICEF, 2021).

While exact figures are unknown at the moment, scholars, experts and professionals warn that the COVID-19 pandemic will lead to a significant increase in European children and young adults with depression and anxiety (Smirni et al., 2020), as well as the onset of a wide range of post-traumatic stress disorder symptoms (De Miranda et al., 2020). Due to these warnings, scholars, experts, professionals and non-profit organizations working toward the well-being of children and young people call for the coordinated mobilization of knowledge production, communication and action for our most vulnerable populations (e.g. Golberstein et al., 2020; Novins et al., 2021) which has led to a wealth of research investigating the experiences and perspectives of children and young people during the COVID-19 pandemic.

Unfortunately, these works are not without challenges. Surprisingly, prior to the pandemic, there was a great neglect in the development of conceptual frameworks in understanding adolescent well-being in crisis situations (Banati et al., 2020). Identifying the gap, in a recent work, Banati and colleagues (2020) have proposed a framework to study and understand the emotional and mental health impacts of COVID-19 on adolescents. The core of this framework builds on Bronfenbrenner's (1994) multi-level socio-ecological model arguing that adolescents are part of three interconnected ecologies: the family, the community and the society, and as such, these are the contexts within which their experiences should be explored. The considerations of ecologies become extremely important during crisis situations, because not only the adolescents' ecologies are affected, but each important family, community and societal actor might also experience intrapersonal difficulties and disruptions to their ecologies as well (Banati et al., 2020). Previous studies investigating adolescents' during the COVID-19 pandemic focused only on their self-reported intrapersonal difficulties, while the effects of disruptions in all three of their socio-ecologies remained unaccounted for. This is a neglect for which psychiatrists have warned during multiple phases of the pandemic (e.g. Wagner, 2020; Novins et al., 2021).

The complete understanding of the effects of the pandemic on adolescent lives is crucial for designing interventions and for informing future infection control strategies. The aim of this study is to re-investigate the effects on the pandemic on adolescents from a multi-level socio-ecological perspective, in order to gather lessons learnt and best practices for recovery interventions and future infection control strategies. Our study was conducted in the capital cities of Ireland, Finland, and the Netherlands. In addressing research gaps deriving from lack of conceptual frameworks, we adopted

the framework recently worked out by Banati and colleagues on a design level. We incorporated the perspectives of individuals from the family level (adolescents, parents and caretakers), the community level (peers, teachers, school directors and school psychologists) and the societal level (experts and professionals from supporting, advocacy and government organizations involved in the design and implementation of COVID-19 measures in schools). In each country we held multiple in-depth interviews and focus group discussions and in Ireland, we additionally conducted participant observation in one secondary school. In the Netherlands, we used a participatory action research approach and conducted arts-based engagement ethnography and visual ethnography in three secondary schools, i.e. we video recorded participant observation and interviews and organized a one-month art workshop with students. We aimed to co-create knowledge regarding the effects of the pandemic and the associated mitigating measures on late adolescents' experiences with a wide range of actors involved. The goal of our study is to inform future infection control strategies in secondary schools, as well as to advance interventions that mitigate the effects of COVID-19 on adolescents' mental health and socio-emotional development.

2.3.2.1 The complexity of adolescence

Adolescence, historically termed as the "period of storm and stress" in developmental psychology (Hall, 1904), is considered to be one of the most vulnerable eras in the life course (Magson et al., 2020). With the majority of mental health disorders emerging at this period (Kessler et al., 2007), it is characterized by rapid changes in emotional sensitivity, hormone levels, physical appearance, brain development and cognitive functioning. Because of this critical transition period, adolescents are considered to be exceptionally vulnerable to crisis, and it is also argued that unresolved stress at this era can undermine healthy development and can hinder one's potential in the long-term (Qi et al., 2020).

While there is a clear consensus in the literature about adolescents' vulnerabilities, there are still many interpretations of who is considered to be an adolescent. The Cambridge definition of an adolescent is a "young person who is developing into an adult" (Cambridge, 2022), and the associated age range has recently been extended to 10-24 (Sawyer et al., 2018) from the traditional definition of 10-19 (WHO, 2022). Unfortunately, the lack of a specific definition is reflected in the studies exploring the impacts of COVID-19 on adolescents. Not only does each study use different – many times random - age ranges to pinpoint the era of adolescence (e.g. 11-15 in Cooper et al., 2021, 14-18 in Qi et al., 2020, or 13-24 in McKinlay et al., 2022), the vast majority of studies also include younger children from the ages of six. However, the other core element of Banati's framework is termed intersecting vulnerabilities pointing out the importance of individual differences in reacting to crises. In the center of this argument lies the different developmental stages and their associated characteristics. There are significant differences in the needs and interests of 10, 18 and 24 year olds, which – when studied together - makes drawing conclusions problematic. More important issue is that Schmidt and colleagues (2021) have already warned about differing mental health outcomes and considerations by more specific age groups in the COVID-19 context.

To address this issue - and in choosing our specific target-, we relied on identified research priorities regarding COVID-19 and child and adolescent mental health, deriving from a vast survey by professionals and scholars in education (Novins et al., 2021). In line with Banati et al., these scholars

also warn about intersecting vulnerabilities, and the serious consideration of the impacts of milestones in development. While there are plenty of developmental milestones between the ages of 10-19, there is a significant increase in social needs with peers in the ages of 12-19 (Meuwese et al., 2016). It has been further argued that this is the first time in the life course where parents are replaced by peers in becoming primary sources of interaction, influence and identity formation and confirmation (Meuwese et al., 2016). Because of serious disruptions in social life associated with the COVID-19 pandemic, and to still be able to investigate the effects of school closures to adolescents, we have limited our target populations to upper secondary school pupils, which cover the ages between 12-19.

2.3.2.2 Adolescents' ecologies

Banati and colleagues - building on Bronfenbrenner's (1994) multi-level socio-ecological model - argue that adolescents are part of three socio-ecologies; the family, the community and the society (see Figure 1). The family level highlights both the adolescents' intrapersonal features such as coping with isolation and homeschooling, as well as the impacts on the family, such as economic stress, crowdedness, dynamics and physical space in the home environment. At the community or institutional level, peer and school environments play a crucial role in the adolescent's experiences of the pandemic, including quality of remote education, teachers' perspectives on school reopening and psychological services provided by the educational institution. At the societal level, experts involved in the design and implementation of mitigating strategies in schools, student and teachers' unions and various advocacy groups influencing government decision making all shape adolescents' lives during a pandemic. This framework argues that adolescents' experiences of the pandemic, as well as their ability to cope with it, are inextricably linked to the connections and procedures of their closer and wider socio-ecological systems.

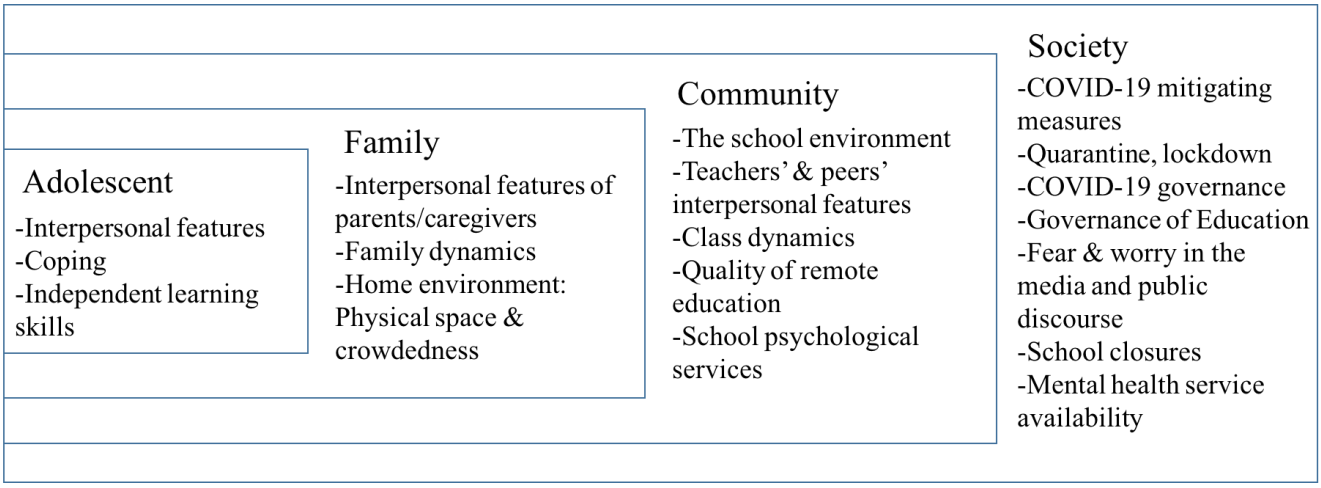


Table 4: Adolescents' multi-level socio-ecological model in the context of the COVID-19 pandemic as suggested in Banati et al., 2021 and Bronfenbrennen, 1994

The Family

The family ecology concerns the adolescent's intrapersonal features, the parent(s)' or caretaker(s)' characteristics and the home environment and dynamics. As we mentioned before, adolescence is characterized by heightened vulnerability to stressful events, which explains the growing body of evidence suggesting that adolescents experienced the greatest decline in mental health in the first few waves of the pandemic as compared to any other age groups (UNSDG, 2020; Fancourt et al., 2021).

However, the reasons for this decline are complex and varying. First, the pandemic, the associated media coverage and its extensive occurrence in the general public discourse acted as a constant stressor to all. However, adolescence is the era where individuals form their identities and think about their future by dreaming and planning their future selves. Disruptions to these may cause uncertainty and anxiety and might delay or harm identity formation and might lead to adolescents' diminishing expectations about their lives, future and themselves (McKinlay et al., 2022). Indeed, there is evidence from Finland (Ranta et al., 2020), Israel (Sulimani-Aidan, 2022) and the United States (Czeisler et al., 2020) that found elevated levels of stress in the first phrases of the COVID-19 pandemic among adolescents regarding their well-being and their future prospects. Czeisler and colleagues (2020) also discovered substance use problems and suicidal ideology as a response to worries about the future. Furthermore, the COVID-19 associated school closure and quarantine also leads to heightened levels of loneliness and depressive symptoms, with pupils losing and re-evaluating their social contacts (McKinlay et al., 2020).

To further complicate the effects of the pandemic on adolescent well-being, parents, caretakers and other individuals in the home environment might also experience intrapersonal difficulties. This creates an indirect dimension in the link between crisis situations and adolescent well-being (Banati et al., 2020). In general, a supportive family environment can increase adolescents' protective factors and coping skills, whereas dysfunction in family may increase negative reactions given to stressful events, such as internalizing symptoms (Bonanno et al., 2007). In a European study investigating parental experiences during the pandemic, the vast majority of parents reported increased levels of stress, conflict and worry deriving from home-schooling, as well as poor remote education quality (Thorell et al., 2022). Parents of adolescents with mental health difficulties or special education needs especially felt overwhelmed and left alone with their responsibilities. Furthermore, millions of European families have fallen under the poverty line in the past two years, which might also affect access to the internet and computers at home, disrupting remote education (Save the Children, 2021). Regarding family dynamics during the pandemic, Donker et al. (2021) found that regardless of the level of individual stress experienced and active coping strategies employed by parents and adolescents, they all felt a diminished warmth and supportiveness in the home environment. Reviewing the effects of the pandemic on adolescents, parents and family dynamics show another dimension of complex interaction through which young people' experiences can be explored and understood.

The Community

The community ecology concerns adolescents' peer and school environments. While adolescents were locked into the family ecology during quarantine and remote education, they were completely separated from physical peer and school environments. While to our best knowledge no study has investigated adolescents' perspectives on friendship and class dynamics during the pandemic, Larivière-Bastien et al. (2022) reported interesting findings among children under 12. They found a variety of ways children naturally engaged in deep reflections as a response to homeschooling, such as the role and meaning of friendships, their connections to peers and the recasting of the school environment from an educational to a social setting. Due to the central importance of peers in adolescence and their ability for more complex self-reflection, exploring friendship dynamics can prove valuable in advancing our understanding of adolescent social development and future infection control interventions.

In regards to teachers, there is evidence that student-teacher relationships can protect from or worsen adolescent mental health during the pandemic (Ye et al., 2021). Just like student-teacher relationships, only one Chinese sample study investigated the effects of the pandemic on teachers' intrapersonal difficulties (Kukreti et al., 2021). They have reported higher levels of PTSD symptoms among their teaching sample than the general population, deriving mainly from fears of contagion. Furthermore, concerns for the well-being of children but fearing the virus resulted in opposing feelings that further increased distress. In Europe, teachers fearing the virus intervened with school reopening through strikes at various times and places in the past two years [e.g. in Hungary (Eduline.hu, 2020) and Ireland (Independent.ie, 2020)]. Due to the teacher's central role in education it is crucial to learn more about their perspectives to inform designing interventions and for informing future infection control strategies, which to our best knowledge hasn't been done in Europe yet.

The Society

The widest ecology of the adolescent is the society they live in, which in terms of the COVID-19 pandemic includes all experts and professionals who were involved in the design and implementation of COVID-19 mitigating strategies in secondary schools. The core here is the complexity of the crisis at hand. COVID-19 is not a medical problem only, but a social condition too (Teti et al., 2020). This is because its course is closely dependent on our beliefs and associated actions, on the ways in which it is governed by countries and on how well citizens comply with the mitigating measures. This leads to a variety of complex issues, such as citizen mental health. When one experiences low mood, the first self-help solutions recommended are physical exercise, getting out of the house and spending as much time with others as possible (NHS, 2022). However, these self-help methods have been forbidden – in many countries even been considered a criminal act - at multiple points in the past two years. A social condition like COVID-19 is characterized by various differing priorities within which the goals and needs of the society often go against the goals and needs of the community, the family and the individual.

While the negative impacts of school closures on adolescents have been widely documented (e.g. Tang et al., 2020), governments were forced to take action and introduce mitigating measures at the beginning of the pandemic. The effectiveness of school closures in infection control is less proven than that of businesses and the service sector (Walsh et al., 2021). However, because of the well-known negative societal impacts of the 2008 economic crisis (Marazziti et al., 2020), some governments were reluctant to shut down businesses and heavily relied on interfering with public services, such as museums, sport halls and educational institutions (e.g. Finland; Reuters, 2020). Furthermore, as discussed above, teachers might also interfere with government action and force schools to remain closed. Then, in some countries, parents disputed teachers' needs and forced the school system to reopen, while other parents did not allow their adolescents to return to school even when they were reopened (Saaverdra et al., 2021). Therefore, reviewing the complexity of the COVID-19 pandemic suggests that while the perspectives of adolescents, teachers, parents and other actors from the family and community ecologies are crucial, we need to go beyond and also incorporate societal needs and perspectives as well. We address this issue by extending our scope to important actors from the adolescents' societal ecology who were in any way involved in the design and implementation of COVID-19 mitigation strategies in upper secondary schools.

2.3.2.3 Research Questions

As we have seen in the previous sections, there are plenty of studies conducted on adolescent' and associated important actors' experiences in the COVID-19 pandemic, however, there are also challenges and gaps that we discovered in these works. After reviewing the complexity of the COVID-19 crisis, investigating the issue from a single population's viewpoint assumes a simplistic idea of the crisis. While adolescents' viewpoints must be incorporated in designing interventions for the future, the consideration of parental difficulties at home, teachers' fear of the pandemic and societal goals and priorities are also needed to create a complex solution to a complex problem. To our best knowledge, this is the first study that incorporates the perspectives of all involved actors from all the ecologies of adolescents in the COVID-19 pandemic. This allowed us to reinvestigate questions from previous studies from a more complex viewpoint, as well as to pose new questions that previous studies' design disallowed. Our main research questions were:

How did various actors in the secondary school networks experience the COVID-19 pandemic? How can the complexity of these viewpoints advance interventions that mitigate the effects of COVID-19 on adolescents' mental health and socio-emotional development? What are the lessons learnt and best practices that can inform future infection control strategies?

2.3.3 Methods

This study has a qualitative design with interviews, observations, and focus groups as its main methods. We conducted 80 interviews and four focus groups in the Netherlands, Ireland, and Finland. Moreover, we visited three secondary schools in the Netherlands and one in Ireland. Interviews were conducted in English or Dutch either in person or online using Zoom or Teams. During focus groups, we allowed for open discussions among participants, exploring the different topics that were of interest to us. Interviews and focus groups were audio or video recorded and were transcribed using NVivo.

For the Dutch part of the research, we used Participatory Action Research (PAR). Within PAR, value is given towards co-creation together with the respondents (Janamian et al 2016). This will be accomplished first of all via the arts-based engagement ethnography method, as we invited students of two secondary schools in the Netherlands to participate in an art project, in November-December 2021. For this project, students were asked to make portraits about their experiences during the COVID-19 pandemic. On the outside of the portrait, they portrayed the outside world during the pandemic. On the inside of the portrait, we asked them to portray their personal experiences of the pandemic, how they felt and what impact it had on them. By giving them complete freedom on how they wanted to express themselves with art, the portraits address those things ought important by the students themselves. We used the engaged characteristics of PAR to help students share their stories of the pandemic and enabled these students to advocate for themselves. Arts-based engagement ethnography is a useful method for this as it makes 'explicit the overlooked', and involves ethnographers into meaning making via their own concepts and discourse (Ybema et al, 2009, p. 6). Everhart et al (2021) add to this debate by arguing the importance of specifically giving your respondents a voice, and let them co-decide what concepts and arguments are important for them to come to light and be discussed during the research.

Moreover, the entirety of the Dutch field work was captured on film. Using visual ethnography, we engage on a deeper level with our respondents and creatively express their stories in collaboration with them (Degarrod, 2013; Sandercock & Attili, 2010). Besides the engagement benefits of visual ethnography, the use of images and film also evokes empathy and calls for social justice (Degarrod, 2013). Following this line of reasoning, the experiences of students that we have portrayed on film together with them becomes an embodied experience for viewers rather than a mere sight. Triggering collective processes of knowledge creation, film can also play a key role in the process of meaning-making, allowing it to bring forward the experiences of students and teachers in secondary schools and having their stories become part of social change (Pink, 2003).

2.3.3.1 Participant Selection and Sampling

The research was focused on individuals' perspectives who were in any way concerned or affected with secondary schools during the COVID-19 pandemic. Both purposive and snowball sampling were utilized. Some participants were detected, selected, and approached online for their involvement in crisis management (purposive), and some were suggested by existing participants (snowball). Respondents can be grouped into one of the following levels of the whole-of-society approach; national, regional and local. Annex B provides a detailed list of the roles and organizations of the participants of Ireland, Finland, and the Netherlands.

National stakeholders are individuals who operate nationally and are mainly involved with advising and writing guidelines. They work for or have close contact with the government and mostly they don't possess direct connections to the field. The total number of national respondents is 16. Regional stakeholders are mainly concerned with supporting the implementation of the guidelines. They normally have direct contact with both national and local stakeholders. The total number of organizational respondents was 23. Local stakeholders are the ones who are present in secondary schools such as school principals, teachers, students, and family members. The total number of local respondents was 41.

2.3.3.2 Ethics and Data analysis

Ethical clearance for the overall study was obtained from the HEROS Ethics Committee, the VU University Ethical Committee (reference number RERC/21-06-1), and the Royal College of Physicians of Ireland Research Ethics Committee (RCPI REC). Our research was further approved by the Helsinki City Administration in Finland. Data was collected between June, 2021 and February, 2022. Digital consent was given via mail prior to the interview, or verbally during the interview. During fieldworks, written consent was given at the beginning of our visits. Additionally, respondents participating in the visual ethnographic part of the study signed a consent form discussing the ethical considerations of partaking in visual ethnographic research. They were informed they would not remain anonymous and they gave permission for presenting the visuals in the ethnographic film, multimedia articles and reports, and online.

We started the study by conducting a literature review in order to create a topic guide for our interviews. Interviews were in-depth and semi-structured. First, our interview focuses on an introduction of our participants, their position within their organization, and an explanation of how they are related to COVID-19 crisis governance. For most cases, this question alone was enough to engage in an hour long discussion with some probing questions. The topic guide was used to check if all desired topics were discussed. The different questions can be grouped into two categories based

on the framework presented in Chapter 1 and in the Deliverable 1.1. The first one was Collaboration, Coordination and Decision Making, which involved questions related to the mitigation and governance of COVID-19 and the associated issues, approaches and solutions. The second part of the topic guide is referred to as Vulnerability and Risk Perception, which investigated the consequences of both COVID-19 and the mitigation strategies on the LTCF network, such as the mental health of workers and residents or the changes in staffing difficulties.

Data was analysed using the interview transcripts and the fieldwork notes. After several thorough readings of the scripts, we continued with fragmenting the texts into units of analysis and a coding process, forming the content of our emerging themes and categories. These themes were divided into groups and codes using Qualitative Data Analysis and Research Software (ATLAS.ti, 9th edition). The reliability of the analysis was ensured by discussions of the results of the researchers working independently.

2.3.4 Findings

The results section of this chapter is structured as follows. First, we discuss the lessons learnt regarding infection control governance in secondary schools (2.3.4.1). This section is mainly concerned with perspectives from adolescents' societal ecology, that is the viewpoints of the interviewed experts in education. This is to inform future infection control interventions in schools. Then, we turn to the experiences of individuals from the community and family ecology, with a special focus on adolescents' self-reported accounts (2.3.4.2). The aim of this section is to provide an account of how mitigation strategies are realized on the field and what are their effects on educational processes, adolescents, and their teachers and families. This section is intended to advance interventions that mitigate the effects of COVID-19 on adolescents' mental health and socio-emotional development.

2.3.4.1 Infection Control

Regarding the measures in schools, school closures were treated with great concerns among all experts. This is mainly explained by experts' deep understanding of adolescents' vulnerability, discussed in the next chapter (2.3.4.2). Apart from school closures, face mask use was also not without doubts among most of the experts. Measures regarding face mask use in schools were deemed 'sloppy', not necessarily supported by infectious control advice. Furthermore, some parents also expressed concerns regarding the possible negative health effects of having to wear face coverings for longer periods of time. While this was not always the main concern of experts, some of them even feared that face mask usage could potentially undermine critical learning processes in face and emotion recognition, which are bases for developing appropriate social behaviour.

In other words, the needs for smooth educational environments serve a strong base for being very careful about COVID-19 restrictions. In addition, constant antigen testing (in many of the schools we studied three antigen testing per week were common practices) were also treated with concerns by experts in schools, for various reasons. First of all, to support normal child and adolescent development, over-medicalization of their school experience must be prevented. Secondly, antigen testing can provide false confirmation to parents, even if the student is actually sick. At the moment of our study for example there was a respiratory virus in Ireland and in many parts of Europe, which was actually more dangerous to young people than COVID-19 (from a medical point of view). The

spread of this virus in schools might therefore pose a larger risk than coronavirus, however, parents might comfortably send students to school relying on a negative COVID-19 test. Instead of testing, the majority of experts suggested watching out for symptoms and recommended that children with any respiratory/flu/cold like symptoms should stay at home. Only at the onset of symptoms a PCR test should be done, instead of repeated antigen testing with the possible risk of false positives and negatives. In case of a positive case, coordinated and quick track and tracing is necessary. When it comes to infection control, experts praised well-coordinated track and tracing above all other measures.

In conclusion, the first priority of experts in education was to ensure an undisrupted educational environment for all students. Since in Western Europe the integration of special needs students in the normal school system has been ongoing, experts often base their arguments on those students' educational needs. This leads to great concerns with any kind of measures in schools that might undermine uninterrupted educational processes.

Participants from all countries were generally happy with the different stakeholders' collaboration and coordination. There was a wide range of newly formed communication channels that contributed to the response strategies' success. Most experts have been in and out of meetings since the start of the pandemic, meetings with the field, the government, supporting organizations and different unions. School networks with parents and families, with unions, municipalities and regulators got significantly tighter. Complaints regarding cooperation regarding confronting and/or late guidelines mainly came from societal stakeholders. At the beginning of the pandemic, many schools dealt with their challenges on their own when guidance was not available in the first few weeks. There was also some neglect in developing guidelines for special education environments, such as boarding schools. In Ireland, for example, a boarding school was working out guidelines in cooperation with an international boarding school association. The school nurses and the principal felt let down by their national educational organizations. However, their connections got tighter with fellow boarding schools, which was praised. Specific education related associations and advocacy groups proved extremely important in the pandemic.

The issue of confronting guidelines mainly resulted from the confusion involving the regional municipalities, the city administrations and the regional COVID-19 management teams. Especially at the beginning of the pandemic, these supporting organizations sent out guidelines that were not in line with each other. That resulted in a lot of confusion and wasted time, trying to find the right advice. This was mainly due to different regions with different infection rates having to adhere to region-specific rules.

With regards to decision making, two main themes emerged: the perceptions of top-down/centralized versus bottom-up/decentralized and collaborative decision making and crisis governance in terms of juggling priorities (see for this theme: Allison & Zelikow, 1999). All ecological levels asked for clear, "top-down", **centalized decision making**, at least in relation to general rules. The newness, confusion and lack of answers that characterized the beginning of the pandemic resulted in insecurity, fear and feelings of responsibility. Societal stakeholders in the educational setting did not feel they could appropriately handle the crisis on their own and explained they were in desperate need of centralized decision making. When it comes to the nuances of the general guidelines, societal stakeholders pointed at the value of **collaborative decision making**. This collaborative decision making was enabled

by the above discussed newly formed communication channels. For example, the question of whether or not schools could stay open was a decision schools preferred to be taken from above. But when it came to how distancing should be implemented in schools, respondents from all levels preferred collaborative decision making.

The last topic of this section is related to decision making and juggling priorities. While most experts were generally satisfied with the overall crisis response, many mentioned that they found it difficult to have their voices heard by the government amidst all the different lobbies. As an example, in Finland in May 2020, restaurants and most businesses were still open, while schools were already closed. Not being able to fight economic interests, one Finnish member of the COVID-19 Coordination Group within schools released an open letter to criticise the government's priorities. This created a general dissatisfaction about school closures among the already upset parents, which eventually led to the reopening of primary schools first. In Ireland, one of our respondents in infection control was just about to sue the Irish government for keeping schools closed, when finally, the educational expert from HSE managed to push her decision through to get the schools reopened. A very commonly repeated observation from experts in Ireland was:

> *"Children and young people just don't have (strong) enough lobby". - Educational expert from HSE, Ireland*

On the other hand, teachers' lobby during the pandemic strengthened in many countries. Below we discussed that school closures were not supported without doubts by experts, which raises the question of why they were closed in the first place. For many cases, especially in Ireland, school closures resulted from teacher strikes organized by their unions. Many experts didn't really understand where the school teachers' concerns were coming from. They talked about crisis governance as juggling priorities, within which governments are making decisions based on the pushes of different public and private interest groups and lobbies. However, they also felt that the voices of children and young people are significantly underrepresented in politics and government decision making.

2.3.4.2 The effects of the pandemic on educational processes, adolescents, teachers and parents

The announcements of governments in Europe to close the schools in around March 2020 came with such a sense of suddenness for secondary school teachers that they found it hard to comprehend what was needed from them in the first days of the school closure. Besides an understanding that they had to work on providing access to online education for their students, teachers indicated that they were left mostly stunned by what was expected of them during the first few weeks of the pandemic. As mentioned above, this was further complicated by delays in guidance to schools and later the contradicting advice from the various supporting organizations. Whilst agreeing to this sense of suddenness, some students indicated that they did not find the first lockdown so hard to adhere to, as they explained that they and their fellow students understood that it was needed in order to stop the spread of the virus. Other students even indicated a first reaction of enthusiasm to the announcement of the lockdown as they got the feeling that they were having holidays. Because of technical difficulties and inexperience, not every school was able to quickly set up remote learning programs.

> *"Our school was in a bit of a panic in 2020 since we have never done remote lessons before. Although we bounced back, I thought independent learning was too much." – Student, Finland*

Over the course of the months, students found creative new ways to spend their time. They started keeping diaries or replaced their time normally spent on football with solving puzzles. One student told us about her aspiration to get famous during the lockdown, as she saw others either on TV or online platforms such as TikTok gaining followers by sharing what they did to kill the time. She explained that for her, the first lockdown was partly characterized by trying out new things and exploring activities that they would normally not have the time for. A Dutch teacher even explained to us that she saw some students blossom during the first weeks of the pandemic:

> *"Some students are a bit more quiet, more in the background of the classroom. And those students really blossomed. They were suddenly writing whole stories. And if you spoke to them one on one through Teams, they suddenly said so much more than normally. So you also saw students who benefited greatly from it, who found it very comforting to hand in all their work in advance. And then they would think, I'm going to chill all weekend. They could arrange that all by themselves. Some students loved it. They were so good at it, they got much higher grades than before corona. Very strange." - Teacher, the Netherlands*

Besides the new hobbies, teachers also explained that they formed closer connections with their students. Two Dutch teachers told us about how they used to give students a small glimpse of their lives during online classes. Stories ranging from sharing the process of a growing avocado plant to a full class being more interested in a lurking cat than in biology characterized the lightheaded moments of online class. Similarly, the teachers also explained how they got to have a look into the lives of their students, getting to know their houses and families. Teachers and students explained varying accounts of support from their family. One student explained his cats as a big source of support during the first lockdown, having them sit next to him gave him a sense of togetherness that he was missing at the time. Other children described how they would sit together with their parents at the dinner table.

In addition, teachers indicated that the first lockdown was also very much characterized by a varying knowledge of the technology that was suddenly needed to teach classes. Even though some teachers were more technically gifted than others, they explained that none of them could keep up with the students when it came to understanding programs such as Teams or Zoom. Teachers indicated that it was important to try to keep track of all progressions in online education if you were to even try to keep up with the students, who had it all figured out from the beginning.

Whilst the first weeks of the lockdown were characterized by jokes with technology or the discovery of new hobbies, students indicated that it became much less fun rather quickly. The cancellation of end-of-the-year events meant students were unable to find closure and move forward to the following year, disrupting the process of changing years or schools (from primary to secondary education, or for graduate students leaving school). Moreover, students indicated that they found it hard that they were expected to work so much from home, as they associated home with vacation and free time rather than schoolwork. Labelling the situation as 'not really school,' a student explained that she could not really pay attention during classes and lost her motivation. Many students mentioned multiple sources of distraction, such as Netflix, TikTok, or their phones and laptops. One student told us how he would grab his PlayStation during classes, keeping one of his earphones in to see whether or not his name was called during class. Teachers explained that they started noticing some students who did not do any schoolwork anymore, as they discovered they could get away with that during online classes and exams.

Besides the general effects on students, with loss of attention and motivation as the first notable declines in students' well-being, teachers also emphasized the inequality between students and schools. The sudden need for laptops and online education was not as easy to implement for all schools. One teacher explained that they had put a tremendous effort in providing all their students with laptops but then ran into the problem that many of them did not have a stable internet connection at home. Another teacher told us that one of the students said that the student could only work when their mother was home, as they could set up an internet connection from the hotspot of their mother's phone. This meant teachers were constantly working on trying to provide all students with the same means to follow good education. However, even if they succeeded in that, a teacher explained that some students were surrounded by so many family members, they were unable to concentrate. A student explained that she got overstimulated while working from home:

> *"Well, that was my father, he was on the phone all the time and my brother was upstairs, also working. My sister, she was usually downstairs and then when you have a break, everyone is still on the phone. It's just a lot mixed up and it doesn't matter where you sit." - Student, the Netherlands*

After the first lockdown, when students were allowed to come back to school again, teachers indicated the joy with which they saw their students returning to school. Similarly, students explained that they were so excited to be back in school that they sometimes found it hard to adhere to the distancing rules, feeling too strong of an urge to hug their closest friends and enjoy being back in their company. At the same time, schools were challenged with implementing hybrid teaching, as students were first allowed to return to school part-time. Various teachers explained that she saw the hybrid teaching period as a small disaster, expressing she was unable to provide good education for the students in the class as well as those at home, feeling they were failing in both. A school principal explained that this period was very demanding on teachers, to constantly adapt to new measures and rules. This required such extra efforts from teachers, that they were all exhausted by the time the summer holidays came around.

Moreover, school principals indicated that schools were challenged with often having to choose between teachers and students when implementing new rules. A school principal for example explained that she is always prone to choose students in those situations but found it hard to ask even more effort from her teachers. One of these decisions was around the students returning to school. Whereas the school provided plastic screens in front of teachers' desks and social distance stickers, teachers were still asked to stand in front of a class. Students themselves indicated that they understood that it was hard for teachers, especially those over 50 or with underlying health problems, to teach a class full of students who did not always adhere to all the rules. This resulted in feelings of fear amongst teachers, according to the school principal, which further amplified their exhaustion. Some school principals also explained that it was very hard to find teachers who would come to work at the early periods of the pandemic. Principals relied on creative solutions, for example, one principal asked his son to assist in overseeing examinations, because of a lack of teachers. Principals with lack of guidance at the time could not do anything but completely understand and accept the fear of teachers and allow them to stay at home.

Around a year into the pandemic, at the end of 2020 and early 2021, students expressed it had become much harder to cope with the isolation of being at home. Students described becoming very antisocial,

not leaving their rooms, not following online education properly anymore and even reducing their social time in the home environment. They described how they found it hard to schedule their days, going to bed in the middle of the night and waking up a few minutes before class started. Moreover, various students explained that they got addicted to Netflix, some only attended classes but went straight back to bed afterwards. One girl explained that this resulted in her feeling irritated by little things, becoming alienated, and even losing friendships by not being able to spend time together. The school principal indicated that, unfortunately, these stories were not exceptional. By this time, the effects of the pandemic became very visible in schools. School principals and teachers explained that the care coordinators were busier than ever, trying to help students deal with their feelings of loneliness. By this time, there were also students waiting on psychological services external to the school. Students and teachers complained about long waiting lines for adolescent mental health services, which they believed is a great neglect in general, but especially in crisis situations. Finnish students in a workshop discussed that they believed at that point that there was nothing more the school could have done for them. They praised online education – while concerned with the quality of education and its' effects on their futures – for giving them structure and at least something to do in these difficult times:

> *"Online school really saved my mental health from completely falling apart during fall of 2020" – Student, Finland*

Some students even shared their stories of falling into depression by the end of 2020 and beginning of 2021. A Dutch student for example explained that by not being able to talk to people or go outside as much as she would normally do, she started to suppress her feelings and bottle them up inside her mind. She also started to think about herself much more, as she had nothing else to spend her time on. She expressed this in the artwork she made during the workshops. She explained that she made cuts in the body on the canvas to indicate that when you bottle up your feelings for so long, at some point, you will burst open and everything will come out at once:

> *"I had a period where I really did not want to pretend to be happy. I'd just sit at the dinner table with an angry face, waiting for another day to come. I just sat there, eating at the table, waiting until I could leave and had to come back the next day for dinner. It lasted for a few months. I was just so angry. It felt like I had almost no emotion anymore because there was nothing that I could feel things about. And when you have no emotion, it feels as if you are a little bit dead. That is how I felt for a while." - Student, the Netherlands*

Educational experts also seemed very aware of the above mentioned problems of the student. Perspectives from all the different ecologies seemed to align very well when it came to the vulnerabilities of adolescents.

> "*I think in every sector from every part of the country, that's the main message we get. Those who are doing well, the distance learning is no problem and they have skills to learn autonomously. But those who are falling behind are now really falling behind. And this is one of the biggest problems we have to tackle in the coming years." – Advisor in the National Agency for Education, Finland*

Experts in child mental health were generally very concerned with the state of adolescents and children. With lack of in-depth investigation, they had few data points that they could draw on. For example, in Finland they observed higher dropout rates, mainly in vocational training. In Ireland, they know that calls to child abuse services have decreased since the pandemic. In the Netherlands, experts and teachers were worried about the rising inequalities among students they were observing. Experts and teachers seemed very well aware that they were losing vulnerable children and adolescents out of sight. Their strategy in the first year of the pandemic was to keep schools open and try to provide them with a 'normal' school environment.

However, 'acting normal' does not attend to the needs of students who are not doing well or who have fallen out of the system. Experts only seemed to speculate the effects of the pandemic on adolescents', even at the time of the data collection (September 2021-February 2022). While they recognize the need for in-depth investigations, it seems that no one is allocated to do the task and everyone is waiting for someone else to start learning about the collective state of their societies' children and young people. Regardless, teachers and experts agree that there is a great need for countries to start in-depth investigations into the state of their children, and to secure funding into mental health services. Even more so, since Europe has been experiencing growing numbers of children with special needs education. Educational experts recognize the responsibility of schools in the detection and the personalization of learning of children with special needs. Education policy advisors who were interviewed all suspect a heightened growth in students with learning difficulties due to the pandemic. However, numbers and trajectories are not yet clear because the disturbances in education lead to children's needs remaining unnoticed for a longer period of time.

After the second lockdown, coming back to school was experienced as very difficult. Teachers explained that students had been amongst their parents for so long, isolated from other kids their age, that they had lost a sense of what is allowed and what is not, and especially at school. Students seemed to have forgotten the normative boundaries and behaved accordingly. Various teachers worriedly explained that the process of socialization for students was completely disrupted:

> *"When we returned from lockdown, you could see that students were so preoccupied with what their position was in the classroom. Who am I? What do I want? which way should I go? Those kinds of things, they were just so busy finding their place again. And that's very crazy, because usually you have that social haggling at the beginning of their first year of high school. We call it norming and storming, the process in groups of finding out who the boss is or who the funny guy is. That is how students learn to feel safe in a group. And now we found that process happening all over again, because it was too disrupted by corona." - Teacher, the Netherlands*

Besides the disrupted socialization process, students themselves indicated that they found it hard to communicate with each other and that there were more fights among children. Another problem was mentioned regarding outbreaks in the schools. Students described that sometimes whole classrooms had to stay home in quarantaine. This meant students had to stay at home and keep up with school work on their own since there was no more hybrid education. Two students in their final year indicated that they were very stressed about missing classes and felt they had already fallen behind because of all the school closures. They struggled with the responsibility to catch up on their own. On top of that, online schooling also impacted their self-esteem and perceived capabilities which came to the surface upon returning to school:

> *"I am less optimistic about my skills and abilities to study now. Especially when we had to get back it was hard to even go to school due to fear of realizing how talentless I am." – Student, Finland*

Moreover, various students indicated that they were expected to work as normal as soon as they were back in school, whereas many were experiencing trouble with adapting to coming back to school. Many students also expressed they were no longer used to all the school tasks and felt overstimulated at school. This became also apparent in interviews with teachers. Both groups expressed the need for more help for students in coming back to school. Additionally, another student explained that the impending sense of whether or not they will go into lockdown again meant students found it hard to adapt to going back to school. She expressed that it is important to realize that students cannot immediately function as they did before the lockdown.

A school principal explained that all these findings illustrate how important a school is for students. Whereas we are all meant to think that school is boring and students are not supposed to like it, the pandemic has shown the flip side and has proven that there is no better place for children to be than in school. Some students have also expressed their changing perceptions to school as a result of the pandemic:

> *"Now I value physically going to school more! It was really hard to get motivated and organized at home." – Student, Finland*

Furthermore, friendships were also greatly impacted during the beginning of the pandemic, as Finnish students explain:

> *"I think cliques are more common now since we face the threat of going to lockdown anytime. People also tend to get closer and classes seem a bit tighter knit." – Student, Finland*

> *"I couldn't make any friends in the first year of high school due to the high quantity of online education. This decreased my motivation to get into groups." – Student, Finland*

These quotes demonstrate changes in friendships and class dynamics deriving from the pandemic and online education. Some students, adhering to rules, met in smaller groups and got closer during the pandemic. However, that made class dynamics less flexible and drifted some students to isolation. Furthermore, some students who just started secondary school during the pandemic had difficulties with forming friendships in the first place, and the effects of those might be longer lasting.

2.3.5 Ethnographic film & Art exhibition

At the moment, we are working on an ethnographic film entitled 'We thought it would be fun: corona crisis in Dutch secondary schools' based on our extensive visual ethnographic fieldwork in three Dutch secondary schools. Here we will share a link of the first draft of our trailer presenting our preliminary findings:

Link trailer: https://vimeo.com/705125251/6919d98a39

Below, we present the results of the arts-based engagement ethnography project. After one-month art workshops, students had made portraits about their experiences during the COVID-19 pandemic. On the outside of the portrait, they portrayed the outside world during the pandemic. On the inside of the portrait, they portrayed their personal experiences of the pandemic, how they felt and what impact it had on them. Students chose a wide range of materials, amongst others pencils, markers, paint, feathers, photographs, magazines, newspapers, coloured paper, COVID-19 self-tests, mosaic stones, face masks, and syringes. Each student added a title and a description to their own artwork. These artworks have been presented during an art exhibition in 2021 and have been used during follow up research (in progress) as vignettes for in-depth interviews with the students.

Picture 2. Hollow borders

Two contours of my head that intersect. In the lower part, I have a head looking up, using the "head in the clouds" principle. The top head is looking ahead, because we really had to think about what to do in the Corona lock-down. In the lower part, I used light colors and shapes with a psychedelic feel to them because it was kind of wild in your head and you have no idea what was happening exactly. In the upper part, I used dark colors, to mimic the feeling of the dark lock-down that has a more intense psychedelic effect. The contours consist of 'high' lines that are gold plated, they indicate rules we had to follow but also the literal boundaries, like being stuck in our country. In the overlapping part of my heads, there is empty space because we had no idea what to think or how to behave. The title refers to the boundaries that we cannot see, but to which we had to adhere.

Picture 3. Kick Corona OUT!

Getting through Corona by kickboxing. That is why a kicking man is also depicted in the middle of my painting. In the middle of my painting, I did a kickboxer with different emotions around it. Family is at the top because we were together 24/7. In the middle left, we see the government, they were the most important people during Corona. There are also logos of various social media apps, that's because I was a bit bored in lockdown and then I decided to discover social media because I didn't have that before. At the bottom left, we see a lonely person surrounded by mountains and water, with that I wanted to say to loosen up a bit in your thoughts. During lockdown we also had moments when we felt very lonely and that's what I wanted to say.

Picture 4. Bored

I imagined my life at the time of corona by drawing myself from behind looking in the mirror. I gave myself a very nice Corona haircut, because my father give me an under cut during corona.

I look in a mirror where my hair is still normal, because if I had it down you wouldn't see it. And I'm wearing one of my first self-made face masks.

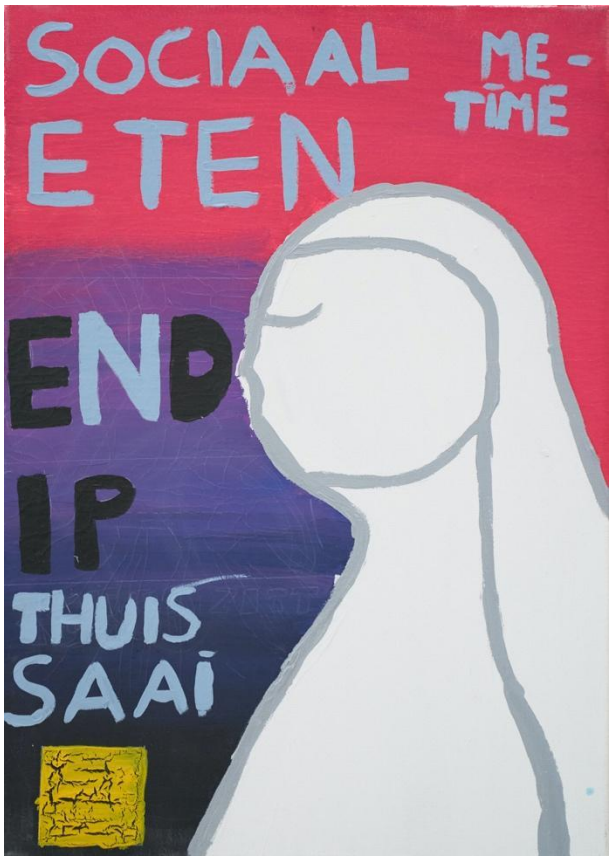
As a background, I used real face masks, because you suddenly had to put them on everywhere. I also made a vaccination syringe and attached it to my painting, because the vaccination determines whether you can do something or not.

Picture 5. Our emotions

For my painting, I used colors to portray meanings and feelings. Red stands for love but also anger: anger because people were angry at the way the government did things, but love because we became closer to family. Blue for sadness but it is also soothing: sadness because people have lost someone because of Corona and that is not easy, soothing because people could focus on themselves then and maybe did more things they like.

Picture 6. Friendship

I made this painting together with my best friend Nithuna. In this painting you see “Friendship” in the middle because we are very close to each other and because of the quarantine we couldn't see each other. We called very often so we also experienced a kind of quarantine together but at a distance. At the top of the painting we have written words what we like about the quarantine and below you can see what we didn't like. With this painting, we want to show how the quarantine had an influence on both of us, so you can see that from those words. You can also see how much influence it had on our friendship. You can see that we look at each other in the painting and that we also look at the word “Friendship”. With this painting we also want to show how much we mean to each other and we have therefore chosen to make this assignment together.



Picture 7. My life during quarantine

My story is a bit complicated, because my painting and Sharalyn's is like one painting. Because in the quarantine we really bonded. So, we both wanted to make a painting that shows that we were really together. And that's why you see "friendship" in the middle. We think friendship is very important and we have also been much closer to each other because of the quarantine. If you look at the word "Friendship" you see that the N and the S have a different colour and we did that on purpose because it is the first letters of our names. In my painting, I put the positive things in light colours and the negative things in dark colours. Because I think light colours stand for cheerfulness and dark colour are sadder. But the most important thing we think and want is simply that we remain good friends forever.

Picture 8. Loneliness

During quarantine, you were not allowed to have contact with people, so you could not meet with friends or family, which made you feel lonely.

Picture 9. The two faces

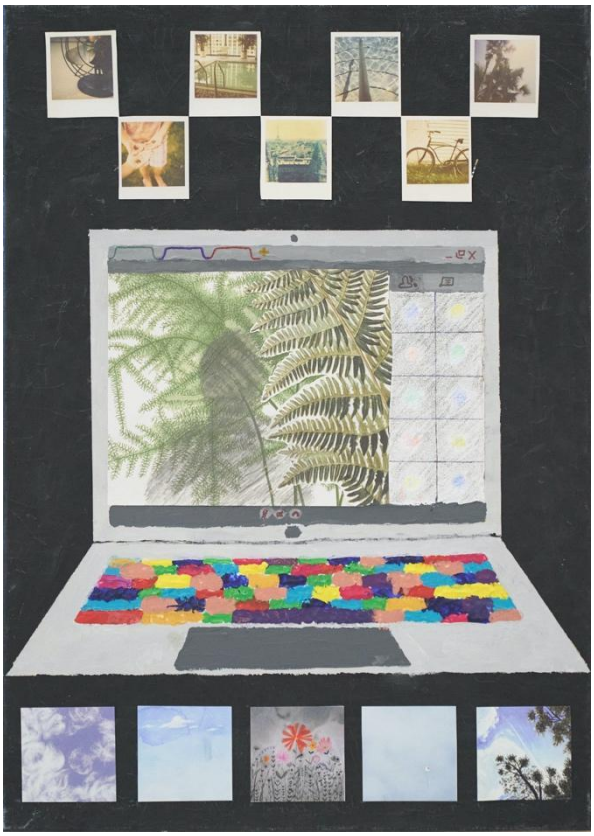
I made it this way because you might look happy on the outside but no one can see how you feel inside, that's why I made two faces, one that shows what that person is showing and one that shows how that person feels inside.

Picture 10. Forever in the middle

The title represents how we are in the middle of the corona because nowadays people don't really die from corona as far as I know. But there are many infections and there is always a lockdown. So that puts us in the middle of it; it doesn't get worse but it doesn't get better either and that also gives a feeling as if corona stays forever. My artwork is about how the government and the church don't always agree, so I'm always in the middle. For example, how to wear a face mask when you have an event. My church had a conference where a lot of people came but nobody had a face mask on. And sometimes it is difficult to apply the choices of the government and of the church in my life, so because of that I am always between two choices.

Picture 11. A look inside the life of a student

I have visualized my life at the time of corona by looking at the life of a student, looking at the world around them through a computer screen and a window, as if you were disappearing. For this painting, I used paint and clipped photos from magazines, the photos depict different glimpses into different lives. The computer is grey because it was boring and tiring but the keyboard is coloured because the computer and the internet offered a way out in many different forms, from friends to movies/series.



Picture 12. PandeME

I imagined my life at the time of Corona by depicting myself before and during Corona. On the left, I made myself and my art style from before Corona. I used to draw a lot more childishly and often scratched paper with pencil. I also had long brown hair then. On the right I made myself and my art style of today. During Corona, I experimented with different materials and techniques. My favourite medium is linocut, that's why I used it as a base. I made the details with a silver marker. When I made this, I had short purple hair, a septum and I wore a lot of necklaces. For the background I used mosaic pieces. They symbolize the pieces I found of myself during Corona. There are still pieces missing, because I haven't found everything about myself yet.

Picture 13. What is freedom?

My painting is a critique of the government (not only of the Netherlands, but also of the rest of the world). Is this freedom? Is this for the 'health' of people?

Time goes on

My artwork symbolizes that, when you look back on the quarantine, everything felt so slow and messed up.

Picture 15. Tick, tick, tick

My artwork is about how I felt in the corona time. I did that by describing the background to what happened in the outside world. That's what I've tried to represent with headlines. They indicate that there was always so much news and that it was no longer possible to keep up. In my silhouette, I describe how I felt myself, the endless clock represents how bored I was and that it felt like time went very slowly. And then the lyrics represent all my feelings.

Picture 16. Sometimes it stops

If you keep everything inside, you'll fill up. And at some point you tear open. Then it won't work anymore. It stops.

Picture 17. Two minds

I have depicted my life at the time of corona by imagining two sides of corona. On the left, you see the bored busy side and it is therefore red with corona tests and screaming faces. The right side is blue with a few houses in Amsterdam in the evening to depict some tranquillity. I noticed that during lockdown and afterwards, I felt like I had two minds and that is also what I want to portray with this painting.

Picture 18. The hand of then and now

I imagined my life at the time of Corona by depicting two hands that almost touch each other. One hand with a somewhat lighter and happier background with many flowers represents the time before Corona. The other hand with a somewhat darker background including some black and white photos is the present and the time of corona that we now live in. The hand of the present tries, as it were, to grab the hand of the past and return to the time before Corona

2.3.6 Discussion

Our research focused on the experiences of the COVID-19 pandemic of a wide range of individuals involved in secondary school networks. The aim was to collect evidence, lessons learned and best practices to inform future **infection control strategies** in secondary schools and to advance interventions that mitigate the effects of the COVID-19 pandemic on adolescents' mental health and socio-emotional development. We have approached the question at hand from a **whole of society governance approach in order to gain a full understanding of all the different perspectives and priorities that guide infection control measures** and hence the experiences of adolescents in this crisis. First of all, we will reflect on what we have learned by investigating the topic through this complex lens.

We have discovered sectors in each country within which all important actors have a very deep understanding of the needs and developmental peculiarities of adolescents. Consequently, their priorities were all very well synchronized: managing through the pandemic with the least possible disruptions to adolescent lives. However, two important aspects aggravated their goals and struggles.

First of all, undisrupted education requires teachers to teach live in front of a class full of students and to put aside their concerns regarding health and safety. They seriously struggled with this situation, especially those who have underlying health conditions, or share their home environment with someone from a risk group to COVID-19. While teachers were generally concerned with student outcomes during the pandemic, some were also fearful of the virus itself. This sheds light into Europe's ageing teaching population issue, which is characterised by fewer new, young teachers coming to the profession by year and staff shortages leading to elderly teachers staying in the profession for longer than average retirement age (EPRS, 2020). To demonstrate the lack of labor force into the sector in the recent decades, according to EPRS, out of the current EU teacher population, only 7% is under the age of 30. It also became clear that teachers' voices were underrepresented during the pandemic, which resulted in threats of strikes in Ireland and staff shortages in Finland.

The second challenge in experts' fight to keep education undisturbed was their lack of representation and power in national decision making processes. As we discussed above, teachers, for example, are better able to organize and form representation than children and adolescents (with an exception in the Netherlands, where students were well represented). We have discussed that experts in the education field referred to crisis governance as 'juggling priorities', in which many sectors possess powerful lobby and advocacy bodies and hence a greater influence on national decision making processes. On the other hand, while student unions exist – especially the Dutch and Finnish Student Union is a great example in terms of their size and invitation into decision making-, the pandemic has proven that their voices are often not heard. Experts in education have emphasised the need for stronger student representation in governments and centred this task as a core element of improvement in both effective interventions for students recovering from the current pandemic, but also for future infection control strategies. In Finland this was a serious issue because of the experience with the Finnish banking crisis of the 1990s, which has seen the students of that era developing into adulthood with different socio-economic challenges which are still observable today. Finland has since invested significant funding into research and intervention into that generation, and our respondents believed that the current pandemic might need a similar strategy. While efforts like these were not yet visible at the time of our data collection, Finland might lead as an example in the future regarding their

interventions for children and adolescents aimed at overcoming the negative effects of the pandemic on those populations.

Since we used the lens of the whole of society governance approach, we have also discovered a wide range of **newly formed communication and collaboration networks** between the various actors as a response to the pandemic. This is very well represented in the various actors' synchronized priorities and the alignment between the evidence we have collected from the schools and the expert accounts. The specific vulnerabilities of adolescents – discussed later in this chapter – highlighted by our student respondents were very well understood and echoed by all experts in education. There is a common and deep concern by teachers, supporting organization and advocacy group members, government education officials and infection control experts regarding the effects of the pandemic on adolescents' mental health and socio-emotional development. Experts forecasted growing numbers of pupils in need of special education and a significant growth in mental health service users among children and adolescents.

In order to understand how expert perceptions reflect the needs of the field and the adolescents' themselves, we have also interviewed teachers, visited schools in Amsterdam and Dublin and engaged in an online workshop with a secondary school class from Helsinki. As discussed in our findings section, we have discovered a wide range of struggles and challenges that teachers and adolescents encountered during the COVID-19 pandemic. We have found strong resilience and flexibility among pupils in their first reactions to the pandemic. The initial significant changes in their lives were greeted with excitement and the unprecedented situations were met with humour and creative solutions. However, this initial positive mentality faded not long after the pandemic had started, and pupils realised that the crisis would not end as rapidly as it entered their lives. The first issues derived from remote education and accessibility, with many students struggling with access to computers and stable internet connections. A lesson learned from schools is the importance of providing pupils with the adequate resources associated with remote learning. While there are great concerns regarding the over-digitalization of youngsters' educational environments (e.g. Marchenko et al, 2021), the pandemic fastened the growing digitalization of European education as also reflected in the EU's Digital Education Action Plan 2021-27 (European Commission, 2021). Furthermore, pupils in our study reported already heightened levels of screen time on top of remote education during the pandemic. There is extensive evidence linking high amounts of screen time among children and adolescents to a wide range of negative psychological outcomes (e.g. Oswald et al., 2020). Hence, while digital access during pandemics is crucial, the over-digitalization of the learning environment might lead to unprecedented challenges. It is therefore also crucial to further investigate before European governments commit to digital transformation in educational settings.

The next issue that emerged among the adolescents during the pandemic is the struggle to keep up with online education, such as loss of motivation, attention, structure and time-perception. The workload has increased and significantly more independent learning characterized this new form of education. The home environment also became a crucial factor, within which the available space, crowdedness, and the family climate significantly impacted adolescents' learning experience. While we discovered some issues with the home environment, it is important to note that we have done our study in the more privileged areas of the EU. The issues of dysfunctional home environments and housing inequalities were not the mere focus of our study, however, experts and teachers equally expressed concerns about the rising inequalities between students. A peaceful home environment

where parents are able to afford time investment to support adolescents' remote learning leads to more smooth transitioning between in-person and remote education, better academic achievement and a smaller burden on adolescent mental health. On the other hand, pupils living in noisy, crowded environments, or where parents are not able to secure time for facilitating learning at home were more likely to fall behind during the pandemic. The concern of growing inequalities stems from teacher and expert accounts arguing that those pupils who do well at school normally do well in online learning too, but those who already struggled are the ones who might have fallen even more behind their peers.

Teachers have also complained that while struggling students might have been lost of sight during online education, upon school re-openings, the growth in differences between educational achievement was already observable. This problem requires systematic attention. Teachers need extra time allocation to identify the pupils who have fallen behind during the pandemic and struggling pupils need additional resources, attention, funding and time dedicated to them. Experiencing inequalities – including underperforming as compared to peers - in childhood and in adolescence is one of the biggest determining factors in developmental psychology for challenges throughout adulthood, with long-lasting impacts on employment, economic situation, marital status, health and life-expectancy (Viner et al., 2012). Among all the challenges that COVID-19 pandemic has brought on this vulnerable population, growing inequalities is perhaps the single most urgent one to attend that again requires leadership, commitment, and extensive funding. Here again, considering Finland's history with their economic crisis and the efforts into weakening its impacts on pupils, Finland might serve as an example to the rest of Europe in addressing this challenge.

In conclusion

We have found that adolescents and all involved actors struggled a great deal during the COVID-19 pandemic, but we also noticed a variety of ways they have overcome challenges. Our multi-level socio-ecological design and or whole of society approach allowed us to investigate the experiences of adolescents during the COVID-19 pandemic from a complex point of view. We have concluded three major areas for improvement both regarding future infection control strategies and to advance interventions that mediate the effects of the current pandemic on adolescent mental health and socio-emotional development. First and foremost, there is a crucial and urgent need in European countries for leadership that facilitates action towards the well-being of our young populations. Secondly there is a need for funding into tackling COVID-19 associated increases in inequalities among adolescents, by allocating extra time and attention to adolescents who have fallen behind with their studies during the past two years. Lastly, there is urgency of reducing waiting times for mental health services for children and young people.

2.4 2.4 Best practices and lessons learned

Based upon the findings and discussions of our various sub-studies, we will here give an overview of best practices and lessons learned. We have divided this chapter into (2.4.1) general infection control, (2.4.2) nursing homes, (2.4.3) secondary schools, (2.4.4) crisis governance in general, (2.4.5) the needs for adolescents, (2.4.6) the needs for elderly in nursing homes, and (2.4.7) the needs for nursing home workers.

2.4.1 Best practices & lessons learned: general infection control

Expert confidence in mitigating measures starting with the strongest confidence (1) to the least (6) in general populations.

1.) Tracking and Tracing	Clear, consensual confidence in the quick set up and extensive tracking & tracing practices in reducing infection and mortality rates
2.) Behavioral Interventions	Clear, consensual confidence in hand washing & avoidance of face touching
3.) Vaccination	While there is clear consensual confidence in vaccines, they are not necessarily available at the beginning of pandemics, and hence, infection control strategies should focus on other measures first
4.) Social Restrictions	While there is clear consensual confidence in social restrictions (e.g. lockdowns), there is no evidence that the benefits outweigh the negative consequences
5.) Face mask use	Clear confidence in face mask use among experts in nursing homes, but plenty of concerns in the school setting
6.) Antigen testing	No clear confidence in antigen testing. There is consensus on the dangers of false positives and negatives associated with antigen testing

2.4.2 Best practices & lessons learned: nursing homes

Findings	**Best practices & Lessons learned**
<u>Importance of Vaccination</u> -COVID-19 has a tremendous course and is highly mortal among the elderly in nursing homes -it is difficult to evaluate the results of mitigating measures (e.g. distancing, cancelling visiting professionals, visiting ban) in relation to the advancement in the lives of residents and workers, but vaccination had a significant impact	- Vaccination rollout among nursing home residents should be the very first target of governments, because nothing else can relieve the tremendous pressure that nursing homes are facing during a pandemic - Visitor bans were by most nursing home workers and directors considered inhumane and undesirable, so infection control should take a different form

<u>Rethinking traditional nursing homes</u> -Traditional nursing home settings (shared facilities & large number of residents) make them hotspots for any infectious diseases -Traditional nursing home interiors are often not at all sufficient for infection control (e.g. isolation) -Informing supporting organizations about the exact interiors (e.g. floor map) of nursing homes has proven to be very helpful	- Attempts should be made to encourage governments to increase the number of nursing homes and to reduce crowdedness in existing care homes - Nursing homes' layouts should be assessed on possibilities of infection control (e.g. Is it possible to isolate residents? Is it possible to have separate shower & toilet facilities for isolated residents? Is it possible to isolate bed-ridden residents? Is it possible to humanely isolate residents with cognitive impairments?). Answers to these questions are heavily dependent on the nursing homes' individual attributes. Hence, assessment on possibilities in infection control can only be done with the involvement of the workers. - Supporting organizations (e.g. local health authorities) should collect floor maps of all nursing homes for adequate support during pandemics
<u>Nurse Infectious Education</u> **-**Most nurses did not receive education on or did not have experience in infection control -Infectious control practices go against traditional end-of-life nursing values, protocols and personal habits -During the pandemic nurses had to let go of the 'a touch is the best medicine'. Emotional support-based practices have proven to be a slow and problematic process among nurses	-Prior infection education among nurses is needed for the effective management of any pandemic in nursing homes -Due to the nature of geriatric and end-of-life care, nurses should also be educated & given space for discussions on the opposing values in infection control and quality of care. This way, they will be better prepared for future pandemics
<u>Allowing visits</u> -Findings indicate all kinds of creative solutions to visiting bans, which shows both the high need of residents and professionals acknowledging & supporting this need	-Nursing homes should be encouraged and funded to create possibilities for distanced visiting spaces as a crucial preparation for future pandemics
<u>Issues of Governance</u> -Nurses, supporting organization representatives and government officials all described fatal issues of governance deriving from the initial hospital centric approach to the pandemic -At the beginning of the pandemic, governments secured all medical equipment to hospitals, leaving nursing homes in serious equipment shortage.	-Nursing home provisioning has to be incorporated into national health care systems -Networks and links that formed during the pandemic between the health care system and nursing homes has to be maintained

-The consequences of this were tremendous. Most importantly, residents had to be taken to hospitals for basic treatments like IV. Residents then were taken back to their homes at that time when testing was still not available.

2.4.3 Best practices and lessons learned: secondary schools

Findings	Best practices & Lessons learned
<u>Unequal representations in decision-making processes</u> -Experts in Ireland and Finland warned that pupils & children don't have good enough lobby as opposed to teachers & school directories -On the other hand, the teachers' lobby strengthened during the COVID-19 pandemic. The needs of teachers and students often oppose each other	- Governments should be made aware of and account for this unequal representation and be encouraged to invest in more support for Student Representative Bodies -Policy makers should be reminded of the underrepresentation of children' perspectives when dealing with complex issues that affect children & young adults -Governments should invest in communication with teachers' organizations
<u>School closures</u> -No confidence among experts and no scientific consensus that school closures are effective infection control strategies -They have long-lasting and unpredictably negative consequences on young adults' social and cognitive development -Getting out of routine for young children and pupils (and even more for those with social/developmental disorders) are likely to cause detriment in socialization and significant extra work for teachers when returning to school	-School closures should be the very last resort in infectious control strategies. This is especially true for schools hosting young children and pupils of any age with social/developmental impairments -Teacher's organizations lobbying for school closures should be given space for meaningful discussions, and other demands should be met (e.g. priority in vaccination) in order to avoid strikes
<u>Face masks</u> -Face mask rules in schools are sloppy (e.g. wearing only when moving around but not while sitting) -Evidence for its effectiveness is far from strong -Face masks in schools can detriment appropriate social development (e.g. facial emotional learning).	-Face masks in schools should not be considered a major infectious control measure -Especially among young children and pupils/young adults with special education needs or social/developmental impairments face masks should not be promoted at all
<u>Rapid testing</u> -Regularly rapid testing of children for COVID-19 can take away attention from other infectious disorders that might be more dangerous for	-Regular testing of children should not be recommended to schools and parents -Parents and schools instead should be educated on infectious control practises:

children than the coronavirus. This can result in parents sending their children to school when ill but test negative to COVID-19 - Regular testing over-medicalizes the school environment which can fundamentally impact the learning experience of pupils	1.) Parents should look out for any respiratory symptoms and keep children home until symptoms last. 2.) Only when symptoms are detected PCR testing should be involved. 2a.) In case of positive PCR test: result isolation and track & tracing should be taken seriously and supported by schools. 2b.) In case of a negative PCR test: the pupil should still stay at home until symptoms are gone. 3.) General prevention: behavioural interventions should be promoted, such as hand washing procedures and avoiding touching faces

2.4.4 Best practices & lessons learned: crisis governance

Findings	**Best practices & Lessons learned**
<u>Links to supporting organizations & governments</u> -Both schools and nursing homes did not always have clear or structural links to supporting organizations -Supporting organizations did not always have clear or structural links to governments and decision making bodies -Cooperation between these bodies during the COVID-19 pandemic has been crucial and constant which results in a wide range of newly formed communication channels	-Governments should encourage and support the maintenance of the communication and collaboration networks that emerged during the COVID-19 pandemic
<u>Importance of early communication</u> -There was a delay (2-3 weeks) in communication between supporting organizations and schools/nursing homes -This has not only resulted in stress & anxiety in the field, but also in the long-term loss of faith & trust in supporting bodies	-In case of disasters/pandemics, supporting organizations should be encouraged and supported in communicating with the field as soon as possible instead of waiting until guidelines are available
<u>Task allocation for supporting organizations</u> -Supporting organizations often did not have clear tasks which resulted in some overlaps but also in blind spots (e.g. guidelines & implementation support for boarding schools)	-Supporting organizations should have clearly defined tasks and geographical areas prepared for future disasters/pandemics

-The geographical reach of local supporting organizations did not have clear borders which resulted in opposing guidelines (i.e. guidelines were often linked to the case number per area)	
<u>Top-down/bottom-up crisis governance</u> -There was a clear need for general measures and decisions to be top-down -School and nursing home directors are not infection control experts, and hence general decisions resulted in great stress and responsibility that they did not feel they should have been theirs -The nuances of guidelines (e.g. how to isolate in nursing homes/how to set up distanced in-person education) should incorporate the viewpoints of the field; here a more bottom-up approach is supported	-General measures (e.g. should schools close/ should nursing homes close to visitors) should be top-down -More specific guidelines that depend on the individual attributes of the field should be bottom-up

2.4.5 Best practices & lessons learned: the needs of adolescents

Findings	**Best practices & Lessons learned**
-There is a general agreement among educational experts that adolescents have suffered greatly during the pandemic -Adolescents reported a wide range of anxiety & depressive symptoms (e.g. feeling too 'stupid' to return to school, increased suicidal ideology) -The general picture is that if a young pupil had pre-existing or predisposed mental or social struggle prior to the pandemic, then it may have worsened or gotten activated -Many students got used to staying at home and find it challenging to get back outside and to school -More students reported wanting to see psychologists but faced incredibly long waiting times to mental health services from all investigated countries, some as long as 12-18 months -A small amount of young pupils (students who excel in independent learning, and/or who had a peaceful home environment during online education, etc.) thrived during online schooling -Small initiatives from teachers were extremely appreciated, some students claimed they were 'life-saving'	-Governments should be encouraged and guided in appointing an educational body responsible for investigating the national mental health of their children and adolescents -Attention should be paid into mental health services for children and young people to respond to the heightened numbers of pupils with anxiety and depressive symptoms -During disasters/pandemics attention should go into mental health services so that we can shift focus from mitigation to prevention -Governments should be encouraged and guided in appointing an educational body responsible for investigating national trends in special education needs -Support should be provided for educational institutions to be able to cope with the increased demands of individual education needs -Teachers' needs should be assessed post-pandemic

-Teachers fear that they won't be able to cope with the increased demand of individual education needs	
-Students reported that they avoid meeting friends to protect their families even 1,5 years into the pandemic -Due to the 'irresponsible youth' rhetoric, students reported that when they finally met friends they felt guilt and fear for their loved ones	-Vulnerable populations should be protected from discourses of blame -Governments should fine tune their communication tailored to vulnerable groups in crisis response

2.4.6 Best practices & lessons learned: the needs of elderly in nursing homes

Findings	**Best practices & Lessons learned**
-Older people living in residential homes showed the highest rates of COVID-19 related infection and death rates -The course and presentation of COVID-19 among older people with pre-existing conditions prior to the vaccination roll-out show terrible outcomes, rapid and highly unpredictable deterioration that nurses have never experienced before -During COVID-19 outbreaks in nursing homes, staff shortages and increased workload resulted in older people dying alone -Among the residents who survived, heightened levels of grief and associated trauma is common	-The painful situations in nursing homes during the COVID-19 pandemic should not be forgotten and should drive future infection control and prevention -Policy recommendations should be acted upon to protect Europe's oldest generations during pandemics
-While the COVID-19 virus is extremely dangerous to older people with pre-existing medical conditions, the mitigating strategies can also have very dangerous consequences -Lack of visiting family members and professionals (e.g. drama, physiotherapist, priest, etc.) can lead to a wide range of negative consequences among the elderly -Social isolation often times lead to serious detriment in older people' cognitive and physical conditions, such as the abilities to walk, talk or remember -Even a 14-day isolation can lead older people to develop antisocial tendencies and avoiding social contact as much as possible	-Governments should support nursing homes in developing digital possibilities for visiting professionals and family members as a preparation for future pandemics

2.4.7 Best practices & lessons learned: the needs of nursing home workers

Findings	Best practices & Lessons learned
-The COVID-19 pandemic has put tremendous pressure on the workers of the sector. Nurses argue that the workload doubled during the pandemic for various reasons -Staff absence due to symptoms/illness had quickly became a major issue, increasing the workload -Infection control practises (e.g. caring for isolated residents or constant PPE usage) are also significant factors in the workload increase -Closing down nursing homes for visiting professionals and family members not only increases the workload of nurses, but it is also extremely demanding mentally, emotionally and physically	-Governments should prioritize the issues faced by nursing home workers to honour their dedication shown in the past two years -The nursing education and profession has to be made more appealing to address the serious staff shortages
-There are alarming levels of trauma and post-traumatic stress disorder symptoms among nursing home workers -Many workers discuss extreme fears of contagion or infecting residents especially in the early hours of the pandemic -Workers report that they never had to witness and couldn't even imagine so many deaths in such short periods of time -In serious staff shortages nurses had to make decisions of who to attend, who to comfort of the dying residents -Nursing home workers did not have time to stop or reflect, they have been under this tremendous pressure for a very long time	-Governments should invest into on-site mental health services for nursing home workers as soon as possible -Mental health services should facilitate group discussions among nursing home colleagues -In future pandemics, on-site mental health services have to be made available immediately
-Nursing home workers report changes in personal and professional pride -On the other hand, nurses report a diminish in professional pride as the pandemic advances -Nurses believe that there is a growing stigma around nursing homes and consequently around	-Governments should avoid the hero rhetoric -Government communication departments should address media blaming, and stand with their workers

their workers due to the high number of COVID-19 deaths -Nurses do not appreciate the 'Hero' rhetoric, since a hero is someone who 'sacrifices themselves for the common good'.	
<u>The future of care</u> -There is a significant east-to-west care migration in Europe: there are more and more migrant workers in Western Europe and less and less workers in Eastern Europe -Europe is rapidly aging: there are more and more elderly with care needs every year, and with raising life expectancy care is needed for longer periods of time -Long term care in most European countries are not distinct social policies, which resulted in many of the issues of governance discussed in this Deliverable 1.2	-Due to the constantly growing demand for long-term care, clear social policies are needed to avoid governance issues witnessed throughout the COVID-19 pandemic -Efforts should be made to understand the complex picture of European care migration

2.5 Future perspectives

2.5.1 Future online courses and dialogues

For Deliverable 5.6 of the HERoS research, we will set up a Massive Open Online Course (MOOC) in collaboration with Future Learn. These expert-led courses invite stakeholders within the nursing home sector to become active creators of their learning by means of discussion. We will discuss institutional resilience in crisis responses both in secondary schools and nursing homes, make participants familiar with the context of health emergencies, and allow learners to consider alternative ways of decision-making and adaptation in crisis situations.

Alongside training, we will use live dialogues to understand how our best practices and lessons learned can best be translated to measures that are designed and facilitated to govern the COVID-19 crisis situation in practice. By means of dialogues, wherein bottom-up and top-down perspectives of all involved stakeholders are assembled, the complexity of day-to-day realities of people are acknowledged and the translation from science to practice can be facilitated (Pearce et al., 2020). During these dialogues, the findings of the visual and arts-based data collection will additionally be discussed and used as a conversation starter. During these dialogues, the visual data will be analysed by all respondents together following the creative and critical thinking principles of the Visual Thinking Strategy-method based upon three questions: 1) *What is going on in the visual data?* 2) *What do you see that makes you say that?* and 3) *What else can you see?* (Moeller et al., 2013) Dialogues will be organized both for stakeholders from the secondary education sector and stakeholders from the nursing home sector (for the latter group, see 2.5.2).

2.5.2 Follow-up research: a Dutch Research Council Grant

In 2022, we proposed to continue our Dutch sub-study about organizational trauma and the adaptive potential of nursing homes during the hot phase of the pandemic. In this follow-up research we will shift our focus to nursing homes during the aftermath of the COVID-19 crisis in the Netherlands. Our proposal has been granted by the Dutch Research Council (NWO). In this NWO project we will build on the Deliverables 1.1. and 1.2 of the HERoS project by describing, analysing, and explaining institutional resilience, organizational healing, and collective sensemaking of traumatic events to determine what further lessons can be learned from this crisis that help organizations transform themselves into resilient institutions. We will use societal and institutional resilience as a lens to unravel the 'new normal' within Dutch nursing homes and recognize the professional and civic communities' abilities to develop capacities to respond to disruption (Powley, 2009). Additionally, through organizational healing, we will develop insights into how organizations recover from trauma, and grow and adapt in the face of adversity (Powley, 2013). Lastly, we look at organizational learning in order to understand how organizations learn from the COVID-19 crisis and build adaptive capacity for future, similar crises (Argote & Miron-Spektor, 2011).

This research will be based on the participatory governance approach that seeks to deepen citizens' participation in the governmental process (Fisher, 2006). In participatory arrangements, citizens and other non-state actors take ownership to influence and share control in processes of public decision-making that affect their lives. Collective ownership is based on deliberation and discursive spaces in which new solutions can surface, alternative views can be offered, and dominant views can be resisted.

Additionally, collective ownership builds on the need for empowered participation of and collaboration between multi-level networks in crisis response and recovery processes. To implement the participatory governance approach, we will make use of participatory action research, aiming at co-creating the research with key stakeholders in the nursing home sector (Janamian et al., 2016; Pearce et al., 2020). Data will be collected between January and March 2023 in two nursing homes and beyond in Amsterdam, the Netherlands. As part of our participatory approach, we will kick off with an event for key stakeholders involved in the HERoS research for deliverable 1.2. We will screen our ethnographic film (part of HERoS deliverable 1.2) addressing organizational trauma in nursing homes during the acute phase of the pandemic, and subsequently initiate a dialogue about how to best respond to these traumas. Using dialogue, wherein bottom-up and top-down perspectives of the involved stakeholders are assembled, the complexity of day-to-day realities of people are acknowledged and the translation from science to practice can be facilitated (Pearce et al., 2020). Additionally, we will conduct semi-structured, in-depth interviews with key stakeholders to generate a detailed account of the cultural and social context of the stakeholder networks in the aftermath of the pandemic. Together with our respondents, and building on the findings presented in this Deliverable 1.2 we will enhance understanding about their perceptions on and practices of responding to the COVID-19 crisis as well as their experience with formal and informal day-to-day adaptation interventions, long-term strategies, and associated processes of recovery and growth. This project, combined with the lessons learned and best practices distilled from the HERoS project will help us to understand how crisis interventions can best be developed to govern the COVID-19 crisis situation in the long term.

The impact of our research is directed at strengthening the capacity of key stakeholders to adapt to the ‘new normal’ in the aftermath of the COVID-19 crisis and understanding how organizations become resilient in uncertain times. By use of a participatory approach, we will learn how social organizations like nursing homes heal from crises. Moreover, these insights can inform crisis management actors about such collective processes of coping and resilience, which can subsequently be translated into formal crisis response strategies. We aim to disseminate our knowledge to the nursing home sector and general public by means of ethnographic film and publicly-accessible training. The use of film, showcasing information about the visual, discursive, sensory, and spatial aspects of the setting, enhances viewers to immerse themselves in a mediated reality produced by researchers and respondents.

3 Conclusion Part A

In Part A of the Deliverable we focused on the COVID-19 crisis response within nursing homes and secondary schools: two sectors that are primarily occupied with their own vulnerable group. Elderly in nursing homes are highly susceptible to the Coronavirus, but may also have rendered socially and psychologically vulnerable during this pandemic. Adolescents in secondary schools are limited susceptible to the virus, but are paradoxically considered to be carrying the highest psychosocial burden because of the COVID-19 mitigation measures. Both stakeholder networks have a certain level of autonomy to customize authorities' top-down measures to their own needs and unexpected consequences. Consequently, this may fuel variations in governance, i.e. in how mitigation strategies are designed and implemented on the ground, including processes of decision-making, collaboration and coordination, crisis communication, and sensemaking.

We have presented our collected evidence and shared best practices and lessons learned related to the governance of the COVID-19 crisis within secondary schools and nursing homes in Europe. For this research, we used a whole-of-society approach looking at three analytical layers: (1) the state and the institutional landscape, (2) established and emerging response organizations and networks, (3) societal resilience and participation. We conducted in-depth interviews, observations, and focus group discussions, and in the Netherlands, we additionally made use of a participatory action research approach wherein we used visual ethnography, photovoice, video diary and arts-based engagement research.

Regarding nursing homes, three main themes emerged from our data. First, we found high levels of trauma among nursing home workers and supporting organisations. Therefore, on-site group therapy is the envisioned response needed. Second, we found a major workforce outflow of the sector. This could be mitigated by a structural wage development that is in line with the value of performing essential work duties and would additionally heighten the attractiveness of the nursing profession. Third, due to lack of governmental and public appreciation we have found diminished levels of professional pride, which could be addressed with aligning nursing home working conditions with national hospital standards. In conclusion, we warn about the possible uprising of a European social care crisis which could be mediated by rapid policy-level action in line with our findings.

For secondary schools, we also derived three main themes from our data. First, we argue for there is a need in European countries for leadership that facilitates action towards the well-being of our young populations. Experts stressed the importance of strengthening adolescents' lobbies and advocacy groups in decision making processes. Second, there is an urgent need for funding into tackling COVID-19 associated increases in inequalities among adolescents. Extra time and attention should be allocated to adolescents who have fallen behind with their studies during the past two years. Lastly, we discovered many adolescent accounts of depressive and anxiety symptoms and we emphasise the urgency of closing Europe's biggest treatment gap within mental health services for youth by reducing waiting times. There is no doubt that the COVID-19 pandemic has caused long-lasting, and in some cases even life-long difficulties to young people. These effects can be mediated by adequate leadership, attention, prioritisation and funding.

In conclusion for Part A: nursing homes and secondary schools are dealing with different vulnerable groups, risks, and priorities and hence, this fuelled variations in crisis response. Most general measures (e.g. school closures/visitor ban) should be top-down decided upon, but more specific guidelines that depend on the individual attributes of the field needs to be bottom-up. Deepening citizens' participation into the crisis response gives them ownership and control to influence public decision-making that affects their lives.

4 Part B. Best governance practices and challenges in cross-border medical supply chain

4.1 Introduction

lessons learned from the EU joint procurement and the COVAX initiative for the purchase and distribution of COVID-19 vaccines

EU member states and institutions reportedly failed to provide a coordinated, timely, and decisive response in the early stages of the COVID-19 pandemic (Naydenova,2020). The pandemic has exposed the European Union's (EU) fragmented governance in tackling public health emergencies (Jordana & Triviño-Salazar, 2020). Globally, according to the report from the Independent Panel for Pandemic Preparedness and Response (Tan, 2021). and similarly, to the EU experience, too many countries took a "wait and see" approach in the early stages of the pandemic when steps could and should have been taken to contain the spread of SARS-CoV-2. Only a minority of countries set in motion comprehensive and coordinated measures that managed to contain and stop the spread of the virus. Many countries followed uncoordinated approaches that often-devalued science and denied the potential impact of the pandemic and only started to act when hospitals began to be overwhelmed. Countries also faced serious difficulties as they struggled to get hold of medical equipment, supplies, diagnostic tests, and later on of vaccines to respond to the exponentially growing COVID-19 caseload. There was no international or cross-country regional system that had created accessible stockpiles sufficient for the needs of affected countries, or that could trigger the flow of resources and step in to regulate orderly access.

There is sound reasoning for increased collaboration among countries in the procurement of medicinal products and health technologies in public health emergencies (OECD, 2020). Collaborative and joint procurement reduces pandemic-induced behaviours such as panic buying but also speculative pricing, and price wars. It further reduces the time spent on procurement, and related transaction costs. Therefore, increased collaboration in procurement can help to:

- reduce procurement times for medicines, vaccines, technologies, and other medical countermeasures,
- advance cross-border learning through information exchange, experience sharing, and taking advantage of the cumulative experience gained from previous procurement processes,
- increase the bargaining power of collaborating countries and aim for fairer prices through joint negotiations (Xianglinga & Ping, 2018),
- ensure the sustainability of health systems and allow them to secure access to innovative health technologies,
- send strong signals to pharmaceutical and medical devices companies about national priorities and what countries consider as fair prices for these innovations,
- increase visibility and transparency in the supply chain (McEvoy & Ferri. 2020).

Cross-border innovative governance arrangements can be driven by center-out initiatives but can also emerge from peer-to-peer links through horizontal networks. Indeed, the complexity of cross-border collaboration in COVID-19 vaccines procurement and distribution may render formal centralised institutions to govern cross-border co-operation too unwieldy, thereby increasing the value of other forms of collaboration, For example, Governance bodies set collective visions and objectives and align components to address major challenges and implement global missions across borders. In such decentralised arrangements innovative systems such as co-funding and co-governance function as connective tissue to drive continuous alignment.

However, it takes time for countries to start trusting each other and to start working together; countries can start collaborating in procurement by exchanging or pooling information, and, if successful, gradually evolve towards more elaborated forms of collaboration, such as joint negotiations. Two of the later initiatives that involve a higher level of collaboration that created innovative governance mechanisms in cross-border medical supply chains are examined in the report. The focus is on COVID-19 vaccines since access and distribution is a highly charged political issue.

In this Part B of the Deliverable we contrast and compare the EU joint procurement and the COVAX initiative along their respective governance structures guided by answering the following questions: 1) What are the innovative policies adopted and the governing institutions established? 2) What are the resources and funds involved? 3) How are the decisions made, in which forums, and through what organising mechanisms?

4.2 European Union Joint Procurement

Innovative Policies and Governing Institutions

Despite the predominance of nationalist policies by many EU countries that dominated the response during the first weeks of the pandemic, the EU member states managed to achieve a significant level of co-operation and collaboration. EU member states agreed to the unprecedented undertaking of delegating authority to the European Commission for the joint procurement of COVID-19 vaccines, an area that is of national and not EU competence (Balfout et al., 2022). The EU also developed a crisis response initiative known as Team Europe with the aim to combine resources from the EU, its member states, and its financial institutions.

Setting the ground for strengthening preparedness in public health emergencies, another EU tool, the Joint Procurement Agreement, had come into force in 2014. Thereby, **EU member states voluntarily had already joined a procedure** to purchase medical equipment and products collectively even before the time of the pandemic. During the pandemic, in June 2020, the European Commission launched a **European strategy** to accelerate the development, manufacturing, and deployment of **vaccines against COVID-19**. The strategy went far beyond earlier EU procurement strategies and tried to balance often competing and contradictory policies in tackling the pandemic among individual EU member states. It had a double aim, on the one hand, to improve effectiveness and efficiency in the EU public health emergency response through risk-sharing and redistribution among all the EU member states and on the other hand to promote solidarity especially towards the smaller states who wouldn't be able to effectively negotiate in competitive international markets being on their own. This

new strategy was far more centralised, and used the size of the EU market more effectively, than the 2014 Joint Procurement Agreement. (European Commission, 2021)

An Advanced Purchase Agreement (APA) was negotiated by the Joint Negotiation Team. The APA was part of a strategy to offer upfront financing for COVID-19 vaccines to accelerate their development and availability. The conclusion of an APA among EU countries required the approval of the European Commission, while member states had five working days to notify if they wished to opt out. The contract was only signed when at least four member states were ready to be bound by it. Member states placed orders with vaccine suppliers directly. The Commission provided more than €2.75 billion from the Emergency Support Instrument to increase the production capacity of the suppliers that it signed APAs with (European Commission, 2021).

Governance Challenges

- The European Commission does not have enough legislative power to coordinate public health actions. Based on the Treaty on the Functioning of the EU (TFEU), EU institutions have limited powers in public health. They may only "support, coordinate or supplement" EU MS, and only a few bindings public health policies are enforced at the EU level (EUR-Lex, 2008). The Health Security Committee (HSC), of DG SANTE, is accountable for coordinating responses during public health crises among EU member states. The EU's competence in the field of Civil Protection is ruled by TFEU, Article 196 which suggests that the EU has a supporting competence in the field of civil protection. The European Union has amended the legislation that enhances civil protection in the Union by establishing a protection unit, where the capabilities of the protection unit can be used as a last resort in case of an emergency situation for its dependent countries. The European Union also adopted May 2021 changes to the legislation to enhance the operational coordination of the Emergency Response Coordination and Disaster Monitoring Center inside and outside the EU (European Commission, 2022),
- Government organisations are typically structured to focus on national priorities. However, complex issues or those spanning the remit of multiple jurisdictions require rethinking existing governance mechanisms and structures. To address this, governments are **creating new governance bodies** to manage issues that span borders. They vary in their level of formality, legal mandate, scope, and architecture, but their objective remains the same: to co-ordinate and harness the collective efforts of actors divided by borders. Governments are engaging with innovative governance bodies at transnational levels to tackle global issues,
- National innovation policy of some countries was not set to be shared and integrated with other because it has been developed to generate and prevent the national comparative advantages,
- Unification of the pharmaceutical regulations and medical agencies, medical agencies, and the pharmaceutical industry was not unified,
- EU MS and EU bureaucracy. One of the rationales behind the EU's challenges in tackling effectively the current pandemic is its institutional complexity. The EU has multiple political levels of decision-making and a lot of bureaucracy, impacting the speed of its responses and actions. Furthermore, the EC's actions are restricted, especially in public health, by the Council's and MS decisions. In general, the **interaction between EU MS and EC in the field of public health is complex**. Solidarity and global health principles during a public health crisis are often of minor importance for national states. When an emergency strikes, it affects all states at the same time. Thus, each state's main priority is to manage its crisis at its national level. the Civil Protection

Mechanism relies on the solidarity of the MS and the challenge was that the COVID-19 crisis happened simultaneously in all MS, lowering the cooperation and thus solidarity among them. EU MS resources are principally devoted to dealing with the outbreak at their national level. Therefore, coordination with other EU MS using EU level mechanisms was sometimes seen as a secondary priority (Gontariuk, et al. 2021),

- Lack of transparency regarding the state of preparedness reported by certain EU MS, which could have led to a lack of trust between MS some EU MS did not want to share preparedness information with EU institutions as they considered this to be classified data, complicating the cooperation between the EU and EU MS,
- Contact with AstraZeneca did not work smoothly; Member states started resign from the AstraZeneca contract,
- Member states made agreements outside of the European Commission's APA and with Russia,
- Lack of transparency in negotiations with producers and in purchase prices; No intellectual property sharing (no demand for sharing data and knowledge); no recognition of 'public goods',
- Lack of transparency in the Advanced Purchase Agreement (APA) with the producers. Lack of experience in supply chain processes and contract management to anticipate the challenges related to the manufacturing and logistics capacity,
- The Gap between the preparedness/ readiness level and the requirements of joint governance.

Core challenges that limit cross-border collaboration include i) **additional layers of co-ordination**, (ii) **difficulty of jurisdictions deviating from norms**, (iii) **perceived loss of sovereignty**, (iv) **fully understanding the costs/benefits of cross-border collaboration**, (v) **competing political interests**, and (vi) **gaining a sense of fairness/equity in the distribution of the costs and benefits**.

Governance Opportunities - Benefits

- the established networks and coordinating mechanisms facilitate the exchange of information at all levels,
- the EU can develop a set of standardized guidelines and/or strengthen the Joint Preparedness planning (such as the International Health Regulations), which all EU MS should follow in the future to avoid incoherence and confusion. The EU could facilitate *standardized training* rather than *standardized guidelines* to respond effectively in the next pandemic,
- a lean approach to decision-making, with clear delineation of responsibilities of different institutions and agencies, avoiding overlapping remits, and duplicative or contradictory measures,
- supply and deployment tools which leverage global supply capabilities and do not create unintended vulnerabilities in the supply chain,
- a clear legal framework and contracting terms, to improve predictability, and therefore industry's participation,
- recognise supply chain as core function to prepare and response to emergencies,
- a global policy and platform for procurement in any emergent situation,

- policies and structures to support equity in access to medical countermeasures for priority populations around the world,
- identify the area of future collaborations and the gaps in joint procurement,
- increase trust to the EU population because of the rapid and successful response.

4.3 COVAX – global multilateral governance

Innovative Policies and Governing Institutions

A core mechanism to address global vaccine availability is COVAX, launched by WHO and partners in April 2020 as the vaccines pillar of its Access to COVID-19 Tools Accelerator (ACT-A). COVID-19 Vaccines Global Access, abbreviated as COVAX, is a worldwide initiative aimed at equitable access to COVID-19 vaccines directed by the GAVI vaccine alliance, the Coalition for Epidemic Preparedness Innovations (CEPI), and the World Health Organization (WHO), alongside key delivery partner UNICEF. It is one of the four pillars of the Access to COVID-19 Tools Accelerator, an initiative begun in April 2020 by the WHO, the European Commission, and the government of France as a response to the COVID-19 pandemic. COVAX coordinates international resources to enable low-to-middle-income countries equitable access to COVID-19 tests, therapies, and vaccines. UNICEF is the key delivery partner, leveraging its experience as the largest single vaccine buyer in the world and working on the procurement of COVID-19 vaccine doses, as well logistics, country readiness and in-country delivery.

COVAX was established as the vaccines pillar of the Access to Covid-19 Tools Accelerator (ACT-A) in 2020. COVAX acts as a platform that supports the research, development, and manufacturing of a wide range of COVID-19 vaccine and negotiates their pricing. COVAX aims to secure at least two billion COVID-19 vaccine doses by the end of 2021, with more than 60% of those going to 92 low-income countries. COVAX's initially aimed to secure access to vaccine with the goal to have 2 billion doses available by the end of 2021 to protect high risk and vulnerable people, as well as frontline healthcare workers. The goal of 2 billion doses to be delivered by 2021 is not achieved yet. My end of May, 2022, COVAX has shipped, 1.5 billion doses in 145 countries. COVAX is coordinated by:

- Gavi the Vaccine Alliance, created in 2000 to improve access for children living in the world's poorest countries,

- CEPI

- WHO

Implementing partners

- UNICEF

- Pan American Health Organization

- Existing partnerships at the country level to understand and tackle the challenges on the ground.

4.4 COVAX – governance challenges

Since the pandemic lasted for a long time, the challenges might vary, change, and get complex. The following are some COVAX governance challenges:

- organizational design and structure: COVAX does not have its own board or its own budget,
- COVAX's main decision-making forum is the 'COVAX Coordination Meeting', co-chaired by CEPI and Gavi,
- vaccine Nationalism: COVAX received funds but not doses because of domestic politics
- countries paid a higher price than COVAX to get vaccine for domestic use from the limited production,
- High-income countries (e.g. Canada, New Zealand, Japan, Australia) bought vaccine options from COVAX's self-financing window alongside their bilateral deals,
- European Commission did not make use of COVAX and compete for the same vaccines separately
- transparency in contract with the private sector/pharma wasn't not the case,
- previous experience show that international vaccine donations involve many political, regulatory, indemnification, and liability complexities; experts suggest that plans should be established for COVID-19 donation processes sooner rather than later so that no country is caught off guard
- governments issued national and protection policies to protect the local producers,
- prevention conditions: vaccines producers imposed conditions in the vaccine contracts restricting donations of doses (Storeng et al., 2021),
- diplomatic and politics in vaccine donations: some countries donated the vaccine through vaccine diplomacy instead of going through COVAX,
- conflict of interest and governance, in some cases suppliers were on governance boards which is against the governance practices (Asundi et al., 2021).
- allocation rules of vaccines to the countries, how the vaccines would be allocated to be fair distributed to the countries,
- establishment and coordination of logistics and distribution networks,
- pricing of the COVID-19 vaccines has also came into question. Reports suggest there is wide variation in price across different countries, with poorer, smaller countries and those with lower purchasing power paying the most,
- innovative financing R&D models which link a product's price to the initial investments and risks taken by a purchaser as well as the value of that product, such as the OMV model, could help to ensure more sustainable pricing. This will become increasingly important if regular COVID-19 vaccination/booster campaigns are necessary to address new virus variants or waning vaccine efficacy over time,
- manufacturing capacity and supply chains should be strengthened. At current rates, billions of people around the world might not have access to their first vaccinations until 2023 or 2024,
- various stakeholders should contribute to planning and building supply chain resiliency amongst countries lacking infrastructure. Countries must also acknowledge that supply chains are global, and a disruption anywhere will impact necessary vaccine campaigns everywhere. Most manufacturing efforts thus far have been made by private sector investors, suggesting an opportunity for governments and international agencies to play a larger role in incentivizing

manufacturing (Hongmei et al., 2022). One fiscally sustainable way to achieve this might be for governments to purchase equity in the production of vaccines or share some of the eventual profits of successfully approved vaccines. Governments and international agencies may also consider insurance mechanisms for pharmaceutical companies that indemnify losses in the case of failed marketing authorizations in exchange for early development of manufacturing facilities,

- Direct grants, pre-purchasing agreements, and other financing mechanisms which do not attach strings to vaccine success outcomes Innovative financing mechanisms such as the Options Market for Vaccines (OMV) Innovative R&D financing models could link product price to the initial investments made and risk taken by a purchaser,
- Vaccine nationalism: COVAX has made significant achievements, but much more funding is needed, countries are paying widely different prices for the same products, some HICs have committed to donating any extra vaccine doses to LMICs, A combination of financing mechanisms can be applied, including payment incentives, or market entry rewards Alternatively, the optimal financing mechanism may include a combination of payment incentives (such as funding for basic science research and early clinical trials) as well as the option Markets for Antibiotics Mechanism (OMA), which could work in epidemiological conditions such as COVID-19. (Brogan & Mossialos, 2013). This effectively lets public and private funders share the risk of investing in antibiotics. It also allows governments and non-governmental organisations (NGOs) to fund all stages of vaccine development from pre-clinical phases through to product delivery (including building manufacturing capacity), while also ensuring that successful vaccines can then be purchased at affordable prices, and distributed rapidly and equitably.

For a proposed options market for vaccines (OMV) model, a public investor (i.e. a government or an international organisation) would purchase options for the COVID-19 vaccine to redeem if and when a vaccine was delivered to market.

4.5 COVAX – governance benefits

The long-term structural lessons that could have been implemented in response to the coronavirus pandemic, from increasing public health capital to shoring up domestic and regional manufacturing and supply-chain capabilities. The COVAX mechanism and Team Europe efforts could have led to the development of a new paradigm in which coronavirus vaccines were understood and treated as a common good and emergency responses and vaccine distribution were matched with efforts to share out manufacturing capacity and regulate the profits of pharmaceutical industries.

- COVAX is the largest purchaser in the COVID-19 vaccine market and its platform and logistics networks could be used from countries and especially developing countries as an example to further improve access to the vaccines and other medicines,
- COVAX developed the mechanism of bringing together different institutions and financing schemes but more work has to be done to better coordinated,
- COVAX has the purchasing power to push for more transparency and accountability in COVID-19 vaccine purchases and manufacturing,
- there is the opportunity through the data that COVAX owns to make the supply deals public, including all the details from prices to delivery schedules and allocations rules and communicate the gaps,

- One of the strengths of COVAX is its ability to iterate (Taylor, 2021) and the world has a platform and a network to build and improve it.

In this Part B of the Deliverable 1.2, we wanted to understand how different organizational cross-border governance systems have been developed in procurement and distribution of COVID-19 vaccines. What lessons can be learned by reflecting on their key dimensions. Such cross-border collaboration is fully depended on successful governance processes to co-ordinate and develop common activities and co-operation among diverse actors who come from broadly independent systems [many delineated primarily within national borders]. Cross-border governance processes point to a strengthened collaboration between actors from the public, private, and non-profit sectors and can be analysed along the main three elements of "regional governance": (i) self-organization; (ii) co-ordination and interaction; (iii) openness for learning (Zumbusch & Scherer, 2015) This collaboration needs to take place among the various levels of both the political and administrative systems. Cross-border co-operations are based on vertical hierarchies as well as lateral networks drawing on a system of common values and rules.

The comparison of the various settings of organizational characteristics, capacities to coordinate, organizations' competences and interests as well as spatial scales reveals important differences. Though, all these organizational factors are decisive for the coordination and implementation of cross-border activities. Regardless of which specific organizational form has been chosen, they all must fulfil crucial prerequisites for successful cross-border co-operations (Gualini, 2003), namely:

- sufficient stability, incentives for new forms of collective action, openness, sufficient resources and capacities, effectiveness, sufficient autonomy, and accountability,
- capable administrative systems, positive personal relations between the main actors involved,
- shared values or shared knowledge as motivation for the main actors involved,
- alteration between participative and elitist approaches, clear distinctions between actors of (political) power and actors of expertise,
- understating of the supply chain challenges and manufacturing capacity constraints and develop mitigation actions.

4.6 Conclusion Part B

The cross-border governance system should be characterized by a high capacity for communication and strategy-formulation in the specific thematic fields of cross-border co-operation. If these conditions are given, cross-border governance systems have a sustainable and reliant base. On the other hand, there are also aspects to be taken into account which can impede successful cross-border governance systems like missing leadership in the governance process, missing capacities for the strategic supervision of the process, missing co-operation at the implementation (more local) level, a conflict-driven and competitive system of interaction with conflicting hidden agendas, political games of the main decision-makers, allocation conflicts in the implementation phase or different logics of action (especially national territorial orientations versus international functional orientations) The concept of risk has become a powerful organizing logic for our modern societies (Power, 2004) and organizational theorists have engaged in examining how risk is organized "the systems created, the

procedures used, and the accountability relationships that are enacted in and among organizations to deal with phenomena that are considered to have the potential to deliver substantial harm" (Hardy et al., 2020).

In cross-border collaboration, these challenges to governance systems are further aggravated by differing cultural, institutional, and legal systems, varying backgrounds, different languages as well as by a lacking knowledge about the different systems involved, which render the conditions for co-operation even more complex [10]. In addition, different policy cultures and contested policy spaces have been analysed as significant barriers for successful co-operation processes in cross-border initiatives, highlighting some of the tensions in governing risk controlling risk The practice of governance is not unambiguous, value free or universal; it comprises multiple realities that interfere with the formal objectives and workings of governance (Weiss, 2000). The "formal" dimension of COVID-19 crisis governance refers to the regulations, guidelines, plans, rules, policies and to the administrative structures involved, including the institutions, the roles and responsibilities of different actors, and the collaboration among them (Weible et al., 2020). "Informal" COVID-19 crisis governance refers to the complex web of stakeholders, organisational networks that are active outside of formalized governance structures, which can however seriously affect and influence such arrangements. The complexity and unpredictability of the COVID-19 crisis calls for a dynamic cross-border crisis governance ecosystem to achieve positive outcomes within and across policy structures and action domains

Regarding Europe, it has been previously argued that the European (member) states struggle with sharing and aligning crisis response capacities and structures (Boin, Ekengren & Rhinard, 2013), and the COVID-19 crisis indeed revealed that the quality of collaboration between countries even within the European Union was insufficient and not what was hoped for (Anderson, Mckee & Mossialos, 2020; Renda & Castro, 2020). The convergence of the COVID-19 crisis with inadequate European collaboration cannot be considered as an exception, because "health is one of the sectors where resistance by EU members to transnational sovereignty has remained strongest, and countries pull back to serving unilateral, national-level interests at the cost of collective policy responses to shared challenges" (Bozorgmehr et al., 2020: e247).

Indeed, it has been argued that "more coordinated action would have been desirable and has also been sought by the European Commission; however, such attempts arrived too late, and were hampered by fragmented governance, as well as by the lack of an EU-wide risk and crisis management framework" (Renda & Castro, 2020: 274). Likewise, in the United States, the response has been handicapped by a lack of political commitment and leadership, unclear goals and inadequate institutional dynamics such as isolated bureaucratic silos (Carter & May, 2020). However, if stakeholders were to invest in boundary work, the junctures would open the possibility to enable diverse connections, the building of relationships and thus the exchange of knowledge and information (Quick, & Feldman, 2014).

Crisis governance in general is (or should be), by its nature, multi-level and cross-boundary (Tierney, 2012). That is why we have to understand (and invest in the mechanisms of) multi-level and cross-boundary governance, that is, in the vertical and horizontal dispersions of authority among local, provincial, national, supra-national, and global levels of government, as well as among non-governmental organizations, private actors, civil society and other relevant organizations and entities

(Daniell & Kay, 2017). The multi-level and cross boundary concept of governance dynamics challenges former state and market-centric views and fosters a need to shift the analysis from state to sub-state (including cities, state and regional governments, businesses, civil society groups, communities, and others), and trans-state (such as the EU, the UN and WHO, and the regional CDCs) as well as the need to understand the blurring of the public-private dichotomy.

The inherent complexity of crisis response systems and processes requires careful analysis of coordination, collaboration and learning among organizations (stakeholders). This layer of crisis governance analysis therefore shifts the focus away from centralized bureaucratic systems of authority and decision-making to decentralized actors and the civil society. This focus on networks emphasizes more emergent forms of governance that involve a variety of organizational actors within and across sectors, including the private sector. Power dynamics in this layer are about influencing the decision-making agenda through processes of negotiation and the creation of new linkages. In this regard, the COVID-19 crisis network governance processes (Rhodes, 1997; Provan & Kenis, 2008) and the reliance on open-ended structures are promising.

Network governance guides collaboration between autonomous but interdependent organizations and stakeholders of different kinds (both established and emergent) that operate within a self-constructed social structure or space to manage(and possibly solve) complex contradictions and dilemmas (Provan, & Kenis, 2008). It is about the mobilization of expertise, interests and resources around challenges in the face of uncertainty (Moynihan, 2008; Kapucu, Arslan, & Collins, 2010). Though communication within and between these networks may vary in inclusiveness and stability, they depend on the quality of their collaborations rather than on state bureaucracies and institutions. Organizations coordinate and adapt through communication and feedback. Systems created, procedures used, accountability relationships enacted to deal with phenomena that are considered to have the potential to deliver substantial harm

The COVID-19 crisis has clearly shown that coordination depends in large part on the (quality of) the relations and negotiations between stakeholders. In some instances, these arrangements may be contained to specific sectors and procedures and coordination might take the form of direct supervision and control. The diffuse nature and inherent complexity of the crisis means that coordination and decision-making have to cut across various governance arrangements, sectors (or organizational fields in organization theory terms) and working processes. Combining orchestration efforts by state agencies and self-directed emergent linkages in a network-governance fashion networks of heterogeneous stakeholders including private-public partnerships can be activated. The network dimension of the COVID-19 Crisis Governance Framework also involves the quality of collaboration between experts from different backgrounds – community of practice by self-organizing groups and organizations interacting through emergent processes. Due to the many stakeholders involved in the response to the crisis and the mitigation of its effects (and eventually the recovery) it is key to invest in orchestration and strategic discussions that can resolve contradictions and dilemmas and create linkages among social actors. Doing so creates a sense of collective purpose in the context of a threatening situation

Formal mechanisms—the formal chain of command, formal decision-making processes, and formal monitoring and evaluating mechanisms—we know little about how risk is organized when the terminology of risk is not explicit and when practices are emergent rather than planned. The literature

suggests that a tension may arise during the real-time organizing of risk between controlling and improvising. The pre- dominant set of practices used to organize risk in this mode revolves around controlling, that is, the implementation of predetermined plans and protocols based on deliberate, rehearsed action in a top-down way. By contrast, improvising practices emphasize emergent, exceptional action during incidents and the decentralization of authority and responsibility. Table 5, 6 and 7 summarizes the main findings of Part B of this Deliverable.

Controlling Mode		
Pattern of interaction	Hierarchical, top down, tightly knit: political, bureaucratic, operational	Network-based, horizontal, loosely knit: operational, bureaucratic, political
Range of actors	EC, EU MS, pharma	Gavi, CEPI, WHO, UNICEF, pharma, governments
Geographic scale	EU, European Economic Area	Global, mainly global south
Membership	Closed, defined representatives	Open, flexible
Legal form	Defined legal status (public law)	Loose network (private law) multilateral agreements among partners.
Organizational structure	Centralized, formalized, modest complexity	Decentralized, complex, informal, existence of several bodies
Decision making	Majority voting	Consensus
Character of decisions	Binding and mandatory	Non-binding, no obligation
Involvement	Political, sector expertise	Various experts, administration

Table 5: Cross-border governance dimensions

Controlling Mode	**Governance mechanisms**
Action alignment processes	Political-legal boundary work
Primary focus	Formal decision-making
Form of influence	Fragmented bureaucratic, formal rules
Leadership configuration	Hierarchical - dispersed authority
Inter-governmental mode of governance	Highly to moderately institutionalized

Table 6: EU Joint Procurement cross-border governance: hierarchical, 'centre-out'

Improvising Mode	**Governance mechanisms**
Action alignment processes	Co-ordination by mutual adjustment, reciprocity
Primary focus	Orchestration via linkages
Form of influence	Negotiation, emergent association
Leadership configuration	Dispersed authority – community of practice
Inter-governmental mode of governance	Lowly institutionalized

Table 7: COVAX cross-border governance: horizontal network, 'loose association'

Cross-border crises by their very nature require a collective response, a network of national, and international actors must be cobbled together. This network must be adaptable and scalable. It often must cross boundaries among units, organisations, sectors, professions, and political jurisdictions. In the EU over time, ongoing activity and interaction led to decision forums becoming "institutionalized," through the accumulation of common rules, norms, procedures, and laws. Once supranational rules are in place and new policy spaces have been organised (i.e., institutionalised), those arenas exert influence over the actors that use them and allow coordination. That influence, along with the efforts of centralised authority EU organisations such as the European Commission, structure further cross-border exchange, the creation of transnational policy networks in new domains (i.e., health), and the EU's policy competences in these new domains.

As a result, actors commit resources, and adapt their routines, expectations, and relationships with one another. This highly to moderately institutionalised inter-governmental mode of governance and the availability of resources and prior experience in similar arrangements (EU joint procurement in 2014) allow experimentation and formation of a dedicated bureaucratic unit that can bring new initiatives to life to address a politically salient problem. Initial steps may only represent symbolic actions but it may require some level of institutionalisation and capacity to translate innovative initiatives to policies or create new organisational forms to manage cross-border medical supply chains during emergency public health situations.

5 Part C. The Municipio Solidale and the social network in the years of the health emergency

By: Agnese Rollo, Associazione Della Croce Rossa Italiana (CRI)

"As part of the emergency for Coronavirus, the VIII Municipality of Rome has offered citizens from the first months of the health emergency the *Municipio Solidale* service" - as told by Alessandra Aluigi [1] - a dedicated telephone number and a platform web on which information is available on drug delivery and home shopping, emergency numbers, contacts of civil volunteers, a solidarity radio, a friendly voice to be close to those in need, home assistance support, a junior service dedicated to the little ones to face the difficulties related to the use of the school via the web, all the info on the Coronavirus and the possibility of reporting other services to offer and share"[2].

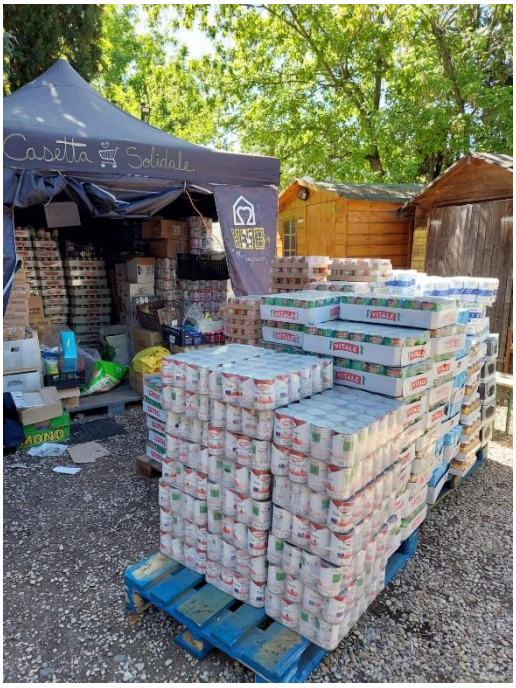
The *Municipio Solidale* project started at the beginning of the pandemic in March 2020 and lasted until the end of July 2020. After this first phase, the project reopened in December 2020 and continued until almost June 2021, exclusively through the reporting activity of the Solidarity Telephone Exchange.
After June 2021 the activity of the Telephone Exchange was inherited by the Social Protection Office of the Municipio Solidale which managed it without interruption until April 2022 guaranteeing, among other things, also to deal with the emergency of refugees from Ukraine.

After a period of stagnation, due to the need to reorganize the territorial network for the collection and distribution of food parcels, the Telephone Exchange resumed operations in December 2020. In the meantime, the situation has changed: with the end of the lockdown many of the people who carry out voluntary activities have returned to work and this negatively affects both the collection and distribution of food parcels, as well as all other support activities; at the same time, the spontaneous donation of foodstuffs has also begun to suffer both from the resumption of activities as regards the large commercial chains, and from the reduced availability of general income.

For this reason it was decided to stop the centralization of the collection and distribution of food goods in the warehouse made available by the Municipality, but each association could organize itself in its

[1] The Councilor for Social Policies of the VIII Municipality of Rome shares the data and considerations set out in the "Report on the activities of the Solidarity Telephone Exchange and on the socio-economic impact of the pandemic in the territory of the VIII Municipality in the period March 2020 - April 2022".

[2] In the first phase - and some still participate - the Associations that signed a memorandum of understanding with the VIII Municipality took part of the activities of the *Municipio Solidale*, making their resources available for the management of support procedures for the initiatives. In particular: Cngei Corpo Nazionale Giovani Esploratori ed Esploratrici Italiani; Aps Welfare Reddito Sociale; Aps Casetta Rossa; Associazione Comù - Cooperazione e Mutualismo; Associazione Parco Scott; La Voce Di Rita Odv; Associazione Pro Juventute Tetto Onlus; Associazione Animalisti Italiani Ets; Associazione Arci Solidarietà Onlus; Associazione Nessun Dorma; Custodes Aurorae Onlus; Associazione Open Arms Italia Odv; Associazione Agape San Paolo Ets; La Fata Viola Odv; Associazione Brigata Garbatella Odv; Agesci ODV con i gruppi Roma 33, Roma 36; Scout Roma 45; Roma 49 e Roma 51; Odv Cara Garbatella; Aps Maria Sophia Aps; Aps Cuore Sociale; Società Cooperativa Stand Up; A.P.S. Io Sono; Associazione Scuolaliberatutti; Emergency.



own spaces on the basis of their respective possibilities and resources. The Telephone Exchange and the municipal platform, having received the reports, then proceeded to forward them to the associations still active on the basis of their real availability and taking into account the problems that may lead to delays in the distribution of parcels.
It is in this phase that a reflection began - within the *Municipio Solidale* - around the consideration that the demand for food goods, instead of ending with the end of the lockdown, seemed to take on a definitive character albeit with slightly different numbers, thus requiring a less emergency approach to the problem. A reflection that had led some realities and the Municipality to discuss a *Solidarity Emporium* of territorial value.

Pictue 19. Distribution of food.

The main activity related to the distribution of food packages continued to be significant. In the first phase, between March and July 2020, over 2,000 food packages were distributed to over 700 families, for a total of about 2,000 people who asked for the help of Municipality.
In the second phase, which started in December 2020 and lasted until June 2021, almost 1,000 food packages were distributed to more than 300 families, for a total of about 1,000 people.
In the third phase - from July 2021 to April 2022 - the food distribution activity continued exclusively through some voluntary associations that continued to take care of the people who still need it and of the new requests received by the Telephone Exchange. More than 500 families that still benefit from food distribution[3].

On the distribution of food aid Eleonora Calvino, one of the volunteers of the association *Casetta Rossa*, says "in the period following the first months of the emergency we have seen that the numbers of families involved in the Casetta Solidale project with the VIII Municipality network continued to rise

[3] The data of the municipal PUA (Single Access Point of the social and health services) together with the requests received by the Switchboard indicate that while in the first four months of the health emergency people who would never have thought of asking for help from the Social Services have turned to the Municipality (in particular 40-45% came from families with apparent economic stability that a sudden event precipitated into poverty), subsequently very significant was the share of over 65s, equal to 26% of the total accesses, who requested support to the territorial administration. In fact, while in the first period the percentage of 18/59-year-olds represented 60% of the total and that of the + 60-year-olds 40%, subsequently the percentage has been reversed: 67% is represented by the + 60-year-olds while the 18/59-year-olds are only the 33% of the total. It is also certified that the demand for direct interventions for social inclusion has grown, quickly exceeding half of the total accesses with 51%. That of these the majority is represented by people in not very serious social conditions, as an effect of the overall impoverishment of current life and work opportunities (26%, with 1,090 accesses, concerns requests for intervention on extreme margins and 25%, with 1,020 accesses, concerns income support interventions).

instead of to decrease; a direction inversely proportional to the trend of the emotional wave of donations. For this reason we have looked for a way to overcome the charity mechanism and make the procurement of food and basic necessities structural. We found Banco Alimentare Roma, an association registered in the Register of Bodies recognized by Agea (Agency for the Agricultural Disbursements), which, pursuant to EU Regulation 223/2014, receives food products and redistribute them to a network of about 300 Territorial Charitable Structures. Thanks to the affiliation with Banco we have managed to have a constant influx of goods which has allowed us to expand the number of people assisted from about 700 in August 2020 to the current 900. Distribution has become much less impromptu and is currently organized by shifts and precise times in which families collect generic products weekly and monthly those that are more economically important or more durable (oil, detergents, etc.). Volunteers are always many and they try to alternate in the shifts to give continuous assistance."

But not only food requests arrive at the Telephone Exchange, and what was seen as a sort of "friendly phone", someone to talk to and even just share the anxieties of loneliness, - as it was during the lockdown period -, becomes a tool with to give information or indications that can be used to face other critical aspects experienced by the family. The housing situation, the lack of work, psychological and relational difficulties, citizenship rights for foreign citizens (etc.) become as many issues on which *Municipio Solidale* manages to intervene.

Aluigi continues by taking up some passages from the report "This experience of active collaboration initiated by the approximately 30 associations of the Municipio Solidale was then fundamental in the implementation and management of more complex interventions such as the opening and management of a reception center with beds for the cold emergency for homeless people at the *Elderly Center of via Pullino*; or in the direct management of Personal Services (Advice and Information Desk, Psychological Desk, Language Courses, etc.) through operational coordination between all the associations involved. Just as the creation of integrated spaces and moments of socialization aimed at both young people and adults had an undoubted positive impact on the community, such as the *Approdo of Via Tito*, which played a crucial role with its workshops and spaces available to the communities."

The two years' project *Municipio Solidale* had a value that goes far beyond the contingent situation. The simple fact that most of the planned activities are still active and permanently included in the territorial offers, shows not only how urgent these measures were in the most difficult period of the pandemic crisis, but above all how necessary they were in general. The response of the territorial community itself, the degree of mobilization and passion that characterized all the activities of the project, as well as the welcome of citizens tell us that *Municipio Solidale* has managed to respond to a complex request already present in the VIII Municipality that pandemic has further amplified: a demand for *primary goods* and *relational goods*.

L'Assessore Aluigi conclude "dalla fine del 2021 è diventata sempre più concreta l'idea di un Emporio Solidale Municipale che nel tempo prende il nome di *Community Hub*. Alla difficoltà della rete di distribuzione si è aggiunta la consapevolezza che una parte della domanda di aiuto alimentare fosse ormai diventata strutturale, richiedendo all'amministrazione municipale di farsene carico. Ma il sostegno alimentare non era sufficiente per rispondere a bisogni complessi e diversificati di carattere informativo, culturale, occupazionale, di inclusione e cittadinanza attiva dei quali sono portatori i

beneficiari di queste realtà. L'obiettivo principale del progetto è quello di dare alle famiglie una possibilità concreta per superare la situazione di "crisi" e aumentare il proprio livello di empowerment. Le azioni dell'Hub, con un inizio graduale da aprile 2022 e fine attività della fase sperimentale a fine 2023, si dividono in Accoglienza, Social Market, Sportello Orientamento e attivazione personale, Sviluppo di Comunità e beni relazionali, Spazio Bambini".

Councilor Aluigi concludes "since the end of 2021 the idea of a *Municipal Solidarity Emporium* has become increasingly concrete, which over time has taken the name of *Community Hub*. Added to the difficulty of the distribution network was the awareness that part of the demand for food aid had now become structural, requiring the municipal administration to take care of it. But food support was not sufficient to respond to the complex and diversified needs of an information, cultural, employment, inclusion and active citizenship nature of which the beneficiaries of these realities are the bearers.

The main objective of the project is to give families a concrete opportunity to overcome the "crisis" situation and increase their level of empowerment. The Hub's actions, with a gradual start from April 2022 and end of the experimental phase at the end of 2023, are divided into Hospitality, Social Market, Orientation and personal activation desk, Community development and relational assets, Children's Area ". In the meantime, the Ukraine emergency occurred at the end of February 2022 and the Municipality of Rome set up a task force to deal with the arrival of Ukrainian families fleeing the war.[4]

Picture 20. Municipio Solidale l' Ucraina

A network of hospitality hotels has been created, managed by the Regional Civil Protection, located in several parts of the Capital, and among these there is also the Hotel Barcelò Aran Mantegna which began by hosting about fifty mothers and children for then in the following weeks to reach well over one hundred people. The assistance, offered by the ACLI (Christian Associations of Italian Workers of Rome), was coordinated by the VIII Municipality also through the support of the social network, essential for the reception of all those Ukrainian people who have been hosted in the homes of relatives, workers in Rome for many years, or homes of private citizens who have opened their doors to offer a bed and a meal to those who have escaped the war[5].

Even if the emergencies to be addressed - the health and Ukrainian ones - are in fact scenarios with different social implications, the *Municipio Solidale* project built in the two years of COVID-19, based on the intense collaboration between the local institution and territorial social associations, has proved to be a functioning model capable of changing and adapting to different social circumstances - local, national, global - with a strong impact on citizenship as a whole.

[4] The hub of the Roman task force for the Ukrainian emergency, set up by Mayor Roberto Gualtieri, came into operation on 3 March. The office, which currently collects the work of about 30 associations in a single space, responds to the toll-free number 800.93.88.73 and to the e-mail address emergenza.ucraina@comune.roma.it. Several problems are faced, as: hospitality, widespread reception, school placement, psychological support and linguistic mediation.
https://www.comune.roma.it/web/it/notizia.page?contentId=NWS895686

[5] https://roma.corriere.it/notizie/cronaca/22_marzo_23/madri-figli-nell-hotel-profughi-50-stanze-ricominciare-vivere-ada9d340-aa1a-11ec-a7d6-08630d5b986a.shtml

6 Part D. Best practices from deployment of UK-MED and PCPM's EMTs

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6.1 Introduction

The COVID-19 pandemic has been a global pandemic of unprecedented scope and complexity, as well as economic and societal impact. While other global pandemics have been ongoing concurrently, such as HIV-AIDS, COVID-19 is a particular challenge due to its airborne nature, high infection rate and transmissibility, as well as the strain on the healthcare system, resulting in very high excess mortality. The table 8 below compares SARS-COV-2, the virus responsible for COVID-19 viral disease, with other influenza pandemics:

In contrast to SARS-COV that affected East Asia in 2002, the COVID-19 pandemic had a longer incubation period and resulted in a much higher number of mild cases that contributed to the infection quickly expanding from individual / community level to uncontrolled community transmission. The same factor resulted in quick spread along the globe, facilitated by business and private travel by airplane. As a result, all healthcare systems around the world were affected, which limited the ability to provide surge support to the countries in most need through WHO's Emergency Medical Teams (EMTs) mechanism. The majority of EMTs, as well as other international surge deployment mechanisms, worked in their home countries, with only limited ability to deploy overseas.

This Part D of the Deliverable lists challenges faced by UK-MED, PCPM and other EMTs in the COVID-19 response operations. It is important however to highlight that these EMTs are based on slightly different operating principles. UK-MED is an independent NGO which manages its own WHO verified EMT Type 1 Fixed and Mobile, but is also the main consortium partner for the FCDO funded UK Emergency Medical Team (UK EMT). Within this, UK-Med has a roster of international staff originating from and employed in numerous countries, and also from the UK, which are primarily NHS staff who are released under pre-agreements with their respective Trusts. In contrast, Polish EMT PCPM has been until the time of the pandemic almost exclusively a volunteer EMT, with the Polish medical staff taking leave of absence from their regular work to deploy in response to natural disaster or humanitarian emergencies.

6.2 Availability for EMT deployment

In contrast to preceding years, the COVID-19 pandemic resulted in an unprecedented number of requests for EMT assistance, not only from developing countries. While the number of EMT requests averaged a few before 2020, there were 12 calls for assistance in 2020 and 21 in 2021. Many went unheeded as numerous EMTs had limited response capacity due to a crisis situation in their home countries.

Year	Month	Number of EMT alerts	Cumulative number of countries for the year	Country & Emergency	Response by EMT teams
	September	1	1	Caribbean - Hurricane	Norway

2017				Irma*	
	December	1	2	Bangladesh - Diphtheria outbreak	UK-Med
2018	May	1	1	DRC - Ebola outbreak	
2019	November	1	1	Samoa - measles outbreak	Norway, UK EMT, AusMat
2020	April	1	1	Sao Tome & Principe	Portugal Instituto Nacional de Emergência Médica (INEM) Zambia - UK EMT
	May	2	3	Tajikistan, Guinea-Bissau	Poland PCPM - Tajikistan
	June	3	6	South Sudan, Cameroon, Armenia	Germany, Italy Piemonte – Armenia Germany Malteser - Cameroon
	July	1	7	Papua New Guinea	
	August	1	8	Lebanon - Beirut blast*	Russia Emercom*, Poland PCPM, US Samaritan's Purse, UK EMT [6]
	September	1	9	Greece*	Norway
	October	1	10	Czechia	
	November	1	11	Armenia	UK EMT
	December	1	12	Maldives	
2021	January	2	2	Eswatini, Slovakia	UK EMT - Eswatini
	February	1	3	Botswana	
	March	2	5	Papua New Guinea, Equatorial Guinea*	US Team Rubicon, Australia Australian Medical Assistance Teams (AUSMAT), Germany Johanniter – Papua New Guinea (PNG); Spain START Team – Equatorial Guinea
	April	1	5	Botswana	UK EMT

[6] In the weeks following the Beirut Port Blast, the Ministry of Health of Lebanon invited EMTs to assist in the COVID response. Out of classified EMTs present in Lebanon, Samaritan's Purse assisted for several weeks, Poland EMT until mid-October (with one staff remaining until mid-December) and UK-MED as part of the UK EMT remained until March of 2021 supporting 6 governmental hospitals across the country..

	June	6	11	Africa (5 countries), Mongolia	UK EMT – Namibia Poland PCPM – Uganda US Team Rubicon – Uganda Portugal INEM – Guinea Bissau Germany Arbeiter-Samariter-Bund (ASB) - Mongolia
	July	1	12	Tunisia	UK EMT
	August	5	17	Mauritania, Mozambique, Timor Leste, French Polynesia, Haiti*	Australia AUSMAT – Timor Leste US International Medical Corps (IMC), US Samaritan's Purse. UK EMT - Haiti UK-Med - Mauritania
	October	2	19	Papua New Guinea, Sao Tome & Principe	UK EMT - PNG
	November	2	21	Sierra Leone*, Democratic Republic of the Congo	

Table 8: EMT calls for assistance during the COVID-19 pandemic, as compared to pre-pandemic years. Asterisk denotes an EMT alert call related to a sudden-onset event, mainly natural disasters. The list includes only the missions done in response to EMT Secretariat's calls and does not include missions arranged bilaterally.

In contrast to the pre-pandemic years, when a call for EMT assistance was usually met with a positive response from several teams, during the pandemic only a handful of EMTs deployed internationally. Many of them were EMTs fielded by NGOs, not governments. It may be assumed that the governments faced the risk of political fallout and criticism in case their medical staff and resources were sent to support another country, particularly if the situation in the home country deteriorated over a short period of time or was already at a critical phase at the time of such deployment. In contrast, EMTs managed and fielded by NGOs did not face the same political and decision-making limitations, although their operations were severely constrained by funding and staffing pool, insufficient for several deployments per year.

Lessons learned (1): During the first six months of the pandemic, management of PCPM, Polish charity managing the EMT, appealed both to the Polish Government and to the WHO to make available the funding to have a core team of medical staff employed with PCPM on a permanent basis and being able to deploy on multiple missions in a year. None of these requests were heeded.

Conversely, UK-Med was able to deploy numerous times throughout the pandemic via the UK EMT as general interest in humanitarian support remained strong after the high caseloads seen in the earlier portions of the pandemic within the UK, showing an element of global solidarity which the organization aimed to demonstrate through a separate report[7]. UK-Med was also funded on a few occasions bilaterally by WHO to support responses when no other EMTs were able to answer the call for assistance. This was primarily in contexts where there was limited political interest or will from larger governmental teams to respond, such as Eswatini, Mauritania and Djibouti. These contexts showed there were still vital gaps in surge response in so called ''forgotten contexts'' and many were still not receiving the needed support more than a year into the pandemic. Constant dialogue and raising

[7] https://www.uk-med.org/nhs-report/

awareness amongst donors and collaborating bodies remained paramount, as in some instances a request for assistance was facilitated in the country itself and not through the EMT mechanism (ex. UK EMT deployment to Zambia from April-December 2020)

6.3 Availability of medical staff

The main challenge and limitation in EMTs' response is limited availability of the medical staff. EMTs' rosters usually include medical personnel in active service in hospitals and other emergency services, such as ambulances. In case the country is experiencing a wave in COVID-19 infections and hospitalizations, these specialists were obliged - either by their employers or by their own patriotism - to support pandemic response in-country. In Poland as in many other countries, the pandemic only exacerbated a dramatic shortage of doctors and nurses. As a result, the EMT staff were unable to take any protracted leave of absence, even more so any unpaid leave or break in service. For the Polish EMT, its medical staff were able to participate in the EMT missions to the limit of their annual leave days available.

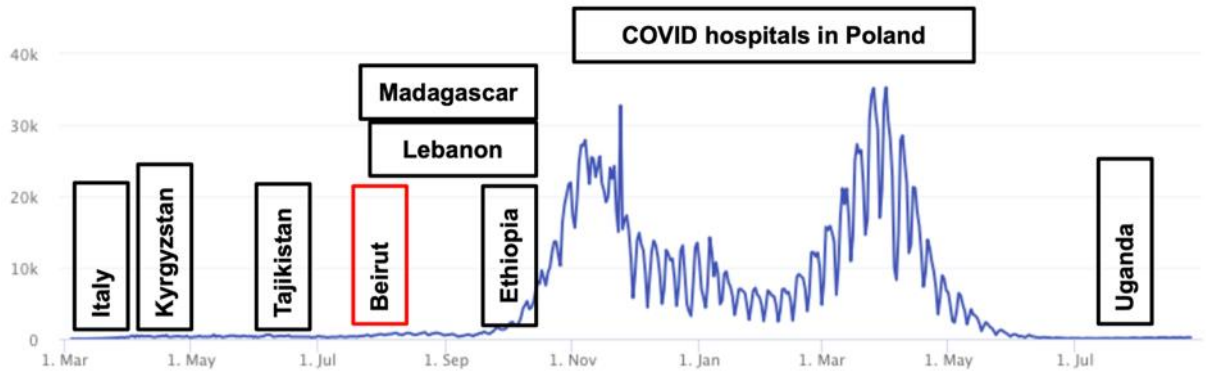

Figure 6.3: Limitations in EMT deployment for COVID-19 response missions: timeline of Poland EMT PCPM deployments overlaid on a graph of COVID-19 infections in Poland. Red box indicates a short deployment to a sudden-onset disaster in Beirut.

EMTs deploying on COVID-19 missions were faced with shortage of medical staff with the necessary skillset. Until 2020, majority of EMTs' rosters included medical staff whose skillset would be useful in sudden-onset emergencies or medical crises: emergency medicine specialists, surgeons, pediatricians, etc. COVID-19 response required the teams comprised of staff experienced in intensive care, including anesthesiologists and ICU nurses.

The UK-Med register was born out of the NHS, with strong links being established since the founding of the organization in 1988. With well over a 100 agreements in place between UK-Med and individual NHS Trusts, staff were historically on an UK-Med on-call roster for a period of several months to be able to respond within the timelines outlined in the Blue Book of EMT Standards. During most of the pandemic, as there was an unprecedented domestic emergency, the release of these staff was not possible. During this time period, UK-Med undertook to recruit, onboard and train several hundred international health and operations staff who did not face such constraints. This scale up allowed the organization to not only support those initial EMT requests, but also allow for simultaneous deployments due to the availability of more flexible staffing models in the latter period of the pandemic.

Best practice (2): Recruitment of medical staff for the Polish EMT PCPM is done once or twice a year with a process including reference check, language tests, psychological tests and ultimately – a field exercise. In March – May 2021, Polish EMT PCPM's recruitment focused almost exclusively on doctors and nurses working either in ICUs or with extensive COVID experience. Inclusion of over 30 new COVID-19 experienced staff to EMT's roster, coupled with growing expertise of other EMT members in COVID-

19 response helped alleviate shortage of specialized staff for the COVID response missions. Several of the newly recruited EMT staff were deployed to Uganda just two months later.

Rapid scale up of recruitment and finding the ''right people, at the right time'' proved to be a challenge during the early part of the pandemic as well as the logistical constraints to move people to the place of deployments. However the nature of the illness, with some countries affected more so than others during specific waves, meant that staff were able to join deployments. In this respect, a roster of just a few hundred staff proved insufficient to mount several response missions and organizations with much larger rosters were better positioned to respond to numerous requests. UK-Med, having a widescale register with nearly 1000 members from many global locations allowed this, and has equally supported other deployments moving forward. During the pandemic, more than 200 staff were deployed from both the NHS and International parts of the UK-Med register, with several individuals deploying multiple times to help provide additional experience to the teams.

Bringing on additional HR and Admin HQ staff to facilitate recruitment and onboarding processes proved to be a vital internal measure for UK-Med to ensure quick turnaround. EMT specific training which prepared specialists to deploy within an EMT response was moved onto online platforms, as travel distance and pandemic linked restrictions negated in-person training. This facilitated ''Just in Time'' measures to rapidly deploy staff and continues to be utilized.

6.4 Managing recipient countries' expectations: operations

In the WHO guidelines for Emergency Medical Teams, updated in June 2021, EMTs are defined as "groups of health professionals, including doctors, nurses, paramedics, support workers, logisticians, who treat patients affected by an emergency or disaster. (...) They work according to the minimum standard agreed upon by the EMT community and its partners, and deploy fully trained and self-sufficient so as not to burden an already stressed national system." [EMT Blue Book, pg. 19] In this capacity EMTs deploy to natural disasters or sudden-onset emergencies, such as the recent explosions of an ammunition depot in Equatorial Guinea and an ammonium nitrate warehouse in Beirut, or earthquake in Haiti. Prior to the pandemic, EMTs' role in training and capacity-building was minimal or none, as they were developed to enhance rapid response capacity of the international health care system.

Internal review of PCPM's deployments in response to the COVID-19 pandemic lists two types of deployments:

Type of mission	**Clinical care / ICU support**	**On-job training & preparedness**
Composition	2+ doctors, 2-4+ medical staff + support staff x 2-3 shifts/day 7-10 persons x 2-3 shifts/day	2 doctors, 2 medical staff + support staff per hospital 5-7 persons x 1-2 teams
Duration	2-4 weeks Staff rotation after 2 weeks	Varies: from 2-4 weeks to 2-3 months 3-4 days/hospital in case of roving teams
Main tasks	Direct clinical care at ICUs Addressing staffing gaps Surge support during peaks Helping local staff take some rest	On-job training in: ● Case management of COVID-19 patients ● Infection Prevention & Control (IPC) ● Triage, patient flow ● Use of ultrasound for quick triage
Prerequisite	License to practice	
EMT PCPM deployments	Italy, Ethiopia	Kyrgyzstan, Tajikistan, Lebanon, Madagascar, Uganda

Table 9: Two types of COVID-19 missions mounted by EMT PCPM

UK-Med delivered several types of responses, but by the mid-point of the pandemic was able to negotiate and deliver to host MoH's the type of response team which was most suitable for their defined needs, based on past experience gained in similar contexts. In most instances this was well received, especially in those countries which had never received any form of prior support.

Type of mission	**Direct Clinical care response including ICU/HDU support within an embedded host structure**	**Capacity Building and Training deployment within numerous host structures**
Composition	Standard Package developed which consisted of 1 Team Lead, 1 Medical Coordinator, 3 MD's (ED, Ward, ICU), 3 Nurses (ED, Ward, ICU), 1 IPC Specialist, 1 RCCE Specialist	Smaller multidisciplinary team able to move between facilities in country 1 MD (ICU), 2 Nurses (ED, ICU), 1 IPC Specialist
Duration	Normally 6 weeks, with several extending beyond this period Staff rotation kept minimal with most able to commit for duration of deployment	Varied from 4-6 weeks
Main tasks	Hands on clinical care in all departments Support to triage, IPC, patient flows and referral pathways Developing/implementing guidelines and SOPs Mentorship and coaching	On-the-job and dedicated training in: ● Case management of COVID-19 patients ● IPC Protocols ● Triage, patient flow ● Basic Life Support (BLS), Advanced Cardiovascular Life Support (ACLS) ● Delivering Training of Trainers programs
Prerequisite	License to practice	License to practice not required as no direct patient care delivered
Example UK-Med deployment	Botswana, Namibia, Lesotho	Djibouti, Mauritania

Table 10: Example of types of COVID-19 missions provided by UK-Med

In contrast to its usual deployments to sudden-onset emergencies, in the COVID-19 pandemic response the EMTs were requested to provide training and capacity-building to the hospital staff. This was an activity where many EMTs were unprepared for and only a few had meaningful training experience, especially in the international setting. For instance, training and capacity building have long been one of UK-Med's key strategic pillars to raise global standards of care, with previous experience in delivering capacity building only deployments (ex. South Sudan, Myanmar) and thus held a unique register skillset and organizational know-how to deliver this. Also PCPM EMT's staff participated in several missions training emergency responders in Kenya, Ethiopia, Palestine and Lebanon. This previous development aid experience proved invaluable in the pandemic response. However, in the vast majority the EMT personnel had no considerable training experience, and particularly not in lecturing that was expected by some counterparts (e.g. Uganda). "We are here to treat people, not to do powerpoints" – was a frequent comment.

The defining line between the clinical care / ICU support and on-job training & preparedness EMT deployments proved to be the license to practice. Polish EMT's expectations towards the pandemic response were shaped by its first deployment to Brescia, Italy, where Polish staff provided staffing support to the 6th ICU established in this facility. However, in case of several subsequent deployments, authorities did not provide a license to practice, often despite ample advance notice and several weeks

of the EMT personnel remaining in-country, thus relegating them to a training / capacity-building role. This was the case for UK-Med in Lebanon, Botswana and Malawi and for PCPM EMT's deployments to, among others, Tajikistan, Lebanon, Madagascar and Uganda. In the case of Tajikistan, Lebanon and Uganda, the local ministries of health did not provide a license to practice for weeks, despite best efforts from the WHO country offices. For the medical staff taking leave of absence from pandemic response in their home country, not being able to provide direct treatment in often unmanned and under resourced ICUs, where their support was much needed, was highly frustrating.

Delays by MOHs in granting a license to practice to EMT personnel deploying on COVID-19 response missions often went against the TORs for EMT deployments, agreed by the same MOHs and WHO country offices. It also went against WHO's much-appreciated role in quickly securing a license to practice for EMTs deploying to sudden-onset emergencies, where a license to practice is often most needed. These all factors resulted in a considerable frustration of medical staff with some leaving the EMT roster after having completed such a mission – at a loss to the dwindling staffing resources in COVID-19 operations globally.

Despite the challenges related to staffing and skillset, it should be highlighted that the teams deployed on EMT deployments were usually smaller than those required by the WHO's guidelines for rapid onset emergency response. While in case of the latter, a Type 1 EMT Fixed should number approximately 20 staff at any point during the deployment, the, COVID-19 deployments mounted by the Polish EMT usually numbered 11-14 staff and even this proved to be sometimes high. ICU support usually operated in the teams of 1-2 doctors and 2-3 support staff, with a 11-14 strong team able to deploy two of such teams to do parallel work in various parts of the same hospital or even in two hospitals consecutively.

Best practice (3): – Several Covid requests sent out for EMT assistance did not tackle the true issue at hand and often asked for specialists that were either not needed (ex. surgeons) or excess to requirements (ex. full ICU teams for facilities that had no ICU setup). Using lessons learned from previous deployments and having a structured set of pre-deployment calls, UK-Med firstly engaged with the WHO Country Office to understand the true picture and available resources, then began dialogue with counterparts from the MoH to allow for a careful and appropriate negotiation. This allowed UK-Med to send the most needed personnel, with deployment and individual ToR's that matched the reality on the ground. Anticipating needs in the country allowed for minimal wasting of resources and also targeted the health facilities and personnel that were most critical during surge response periods or capacity building deployments.

Recommendation (1): As COVID-19 response required the EMTs to engage in substantial training or capacity-building activities, for which many medical staff were not prepared or had little previous experience, particularly in foreign country setting, it would be advisable for the EMT Secretariat or an affiliated entity to develop a course on teaching methods in multicultural setting. Standard cultural awareness courses implemented as part of EMTs' training package are focused on interactions related to direct medical care, not teaching.

6.5 Managing recipients countries' expectations: duration of deplyment

The countries affected by the COVID-19 pandemic did not require field hospitals with surgeons and internists, but specialized care teams that support case management or can train and build capacity of medical staff in the hospitals and ICUs. This necessitated a shift in EMTs' response towards EMT Specialized Teams, focusing on ICU support or Infection Prevention and Control (IPC). The growing importance of such Specialized Cells was recognized in the new version of EMT guideless, issued by the WHO in June 2021.

According to the WHO Blue Book updated in June 2021 [pg. 33], the EMT's duration of expected deployment to sudden-onset emergencies or humanitarian crises was:

- Type 1 EMT – 2-4 weeks
- Type 2 EMT – 4-6 weeks
- Type 3 EMT – 6-8 weeks.

Instead, the requests for assistance submitted by many governments listed deployment timelines reaching 3-6 months. As a result, multiple missions were significantly longer than those envisaged in the Blue Book. Deployment of the teams in ICU support and case management roles lasted up to 6 months, which required multiple staff rotations and therefore – large staff rosters and funding.

In a few instances where there continued to be ongoing needs or a gap to be filled by exiting EMTs (ex. Lebanon for an 8 month response) UK-Med did extend the deployment beyond the usual 6 week period. In instances where the request for assistance was longer than feasible at initial commencement, this was negotiated down with the MoH with the caveat of reassessing at the halfway point of the deployment. If a need to extend was found, the MoH would then submit a request for extension to the primary donor based on technical and operational inputs from UK-Med. If all parties agreed, then the extension was approved accordingly and in some instances additional staff deployed due to needs seen over the initial weeks.

In its COVID-19 response, the Polish EMT used the deployment modality stemming from rapid-onset response with the full team deploying at once in expectation of starting operations immediately. In hindsight, it was a mistake at least on a few occasions. A scoping mission should have been deployed to countries such as Lebanon and Uganda to discuss expectations with the MOH and based on it prepare the mission better.

Recommendation (2): As a standard practice, EMT deployments to any country bar sudden-onset emergencies should be preceded by a scoping / liaison mission to discuss needs and expectations with the MOH and reach conclusion on the scope, timing and responsibilities of the EMT deployed.

6.6 Funding

The EMT initiative was designed by the WHO to act as a rapid response support arm of the Organization, with the team being funded and maintained by governments, chiefly ministries of health, or NGOs and deploying at the request of WHO at their own expense. In this, WHO tried to mimic the successful system of Urban Search-and-Rescue Teams, managed by the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) under the umbrella of International Search and Rescue Advisory Group (INSARAG). Such Urban Search and Rescue (USAR) teams are deployed at their own cost and are an additional asset for the UN response system.

The EMTs participating in the WHO-coordinated system are undergoing a classification exercise that checks their operational readiness against the criteria set out by the EMT Initiative. During WHO classification, EMTs are being evaluated whether, among others, they can finance one deployment per year. Both governmental and NGO classified teams meet this criterion. However, the COVID-19 pandemic resulted in unprecedented demand for EMTs' and specialized assistance.

As Table 1 above shows, while pre-pandemic years usually had 1 or 2 calls for EMT deployments, usually in response to natural disasters or disease outbreaks, the pace of EMT deployments increased significantly due to pandemic. In 2020, EMT Secretariat shared 11 requests for assistance, ten of them related to COVID-19 pandemic. In 2021 the pace of deployments increased further with 21 alerts conveying requests for assistance from 16 COVID-19 affected countries and territories.

As there is a limited number of EMTs that deploy to COVID-19 affected regions, these organizations are faced with shortage of funds, which prevents them from engaging in more deployments. This is particularly the case with NGO-led EMTs, such as EMT PCPM.

6.7 Transportation to and operations in affected country

Deployment during the initial stages of COVID-19 pandemics were very difficult due to flight ban in place throughout much of the world. For Polish EMT, first three deployments to Italy, Kyrgyzstan and Tajikistan took place thanks to the support of a military aircraft (missions to Italy and Tajikistan) or a private jet donated free of charge (Kyrgyzstan). In contrast to EMT deployments to sudden-onset emergencies, where self-sufficiency requires transportation of sizable amounts of cargo, EMT deployments were relatively light as the teams needed to carry PPEs. In fact, the weight of PPEs was so low that the volume was the major limiting factor, particularly when the Polish EMT traveled with a private, 12-seater jet to Kyrgyzstan in April 2020. Once the air traffic resumed, the teams were able to deploy with their PPEs as part of checked-in luggage, and only additional, donated medical equipment being shipped by air cargo.

One major advantage of the COVID-19 deployments for UK-Med was that most requests were for people only, thus making the logistics end slightly less daunting. Travel arrangements to deploy staff during the pandemic however became quite onerous due to constantly changing guidelines by countries and airlines occasionally having an unclear understanding of entry requirements. This resulted in some staff not being able to board despite having the mandatory paperwork. Equally so, PCR testing windows with long flight journeys sometimes meant people had to stop enroute to get re-tested (ex. flying to Papua New Guinea) or be re-tested on arrival. In certain circumstances, the host government was not willing to provide entry quarantine waivers, despite staff being tested and fully vaccinated or had provided the waivers only to switch course at the last minute. This had a knock on effect on clinical deployment time as the team lost 2 weeks in hotel quarantine, though in all instances was mitigated by a no-cost extension. It nevertheless limited support in the surge period of the deployment. Also interviewed Polish EMT members recall frustration related to the quarantine requirements despite numerous pre- and post-departure PCR tests, and the unnecessary wait that prevented them from being at the patients' side. The delay was particularly difficult for medical staff that could take only limited leave of absence from their regular COVID-19 related work in their home countries.

6.8 Coordination with the Ministry of Health and EMTCC

In general, the collaboration with MoH's in each of the deployed countries functioned well, despite challenges in a few to obtain licenses to practice. Most of the countries which UK-Med personnel deployed into had never received any form of assistance on COVID-19, thus an EMT with international specialized care staff was openly welcomed. One major challenge was in getting all the required clearances and paperwork from the MoH prior to the team deploying, as the necessity of these items was not always high on the agenda for the host entity. In some instances, entry clearances only arrived as the team was checking in for international flights, despite being told they were imminent for days or weeks on end.

Very few had objections to either the team makeup, ToR's or deliverables of the deployment, instead viewing the EMT team as ''COVID-19 experts'' and being encouraged to guide them on what was the best course of action. Only in Lebanon was there an established EMTCC, as most other responses involved UK-Med or UK EMT being the only EMT in the country, thus liaison was directly with the MoH and any relevant district or hospital management structures. This helped to establish direct links, though very often there was a request from the MoH to duplicate efforts done by previous EMTs or organizations in the country, which was negotiated down by the Team Lead and Medical Coordinator of the deployment. This awareness was through working with the WHO Country office, Health Cluster and dialogue with partner organizations.

In contrast to more numerous UK-Med deployments, the Polish EMT had only one deployment - to Lebanon - where several EMTs were coordinated simultaneously in the COVID-19 response. The EMT coordinator proved to be an important focal point between the EMTs deployed to the field - in

case of the Polish EMTs to two hospitals in northern Lebanon, Tripolis and Halba - and WHO and MoH on the other. However, even in the case of a very resourceful EMT coordinator deployed to Lebanon, it was impossible to overcome MoH's refusal to grant a license to practice.

Refusal of several MoHs to grant a license to practice to EMT personnel deployed at the request of this MOH was one of the failures of the COVID-19 response. In the case of the Polish EMT, a medical team deployed at the request of the Tajik government and flown there on several military flights, at a considerable financial expense, was not granted a license to practice and relegated to solely capacity-building role. Similarly in Lebanon, even though the MoH requested EMTs in-country to provide support in the COVID-19 response, it did not provide a license to practice to the deployed international medical staff. This led to premature departure of one EMT, as well as earlier than expected termination of the Polish EMT deployment. One month into the deployment to Lebanon, the Team Leader wrote in the weekly report to WHO that denial of a license to practice by the Lebanese MOH "leads to daily ethical and mental issues of the medical staff, not being allowed to save lives and forced to look like people die from preventable causes. And that is not acceptable. Therefore, I am forced at this moment to make a step back from the beds of the patients, and focus on assessments, IPC and trainings outside of the patient's rooms. The doctors will be with the patients ONLY in case a local doctor is with them providing medical interventions. This way a consultation can be done." Non-issuance of a license to practice forced the Polish EMT to cut short its 3-month deployment to Lebanon once a request for assistance came from the health institutions in Poland.

Problems with issuance of a license to practice persisted in other Polish EMT deployments. In Uganda, the Polish EMT was tasked with supporting the set-up of a third ICU in the country but throughout its 4-week mission, none of the medical staff was granted a license to practice. This denied the patient an assistance from very experienced medical professionals, causing unnecessary suffering and death. The delay from MOH was even more difficult to explain as the same Polish EMT received the license to practice to work in a refugee camp in 2018 in a matter of days. In cases of all three countries, Tajikistan, Lebanon and Uganda, WHO Country Office was not able to influence the MOH's decision.

Recommendation (2): EMTs deployed on any mission should have a right to terminate it early if they are not provided with a license to practice. Skilled medical professionals are not always the best teachers, particularly in the midst of a global pandemic where they are needed at the patients' side - if not on EMT deployment, then in their home countries.

In 2020, EMT support was requested by the countries that due to political reasons did not want to acknowledge the severity of the situation, which often affected the mission outcome. In Tajikistan EMT PCPM faced major political interference. In Tajikistan's capital COVID-19 positive patients, even those with severe ARDS, were discharged from hospitals, while hospitals were emptied to show to EMT that the situation is under control and the pandemic is on the wane. In another instance, Tajik authorities blocked helicopter flights for EMT and WHO staff to the mountainous Pamir region. During the mission, the deputy minister of health in charge of COVID-19 pandemic was unexpectedly laid off.

6.9 Staff on mission and staff on rotation

In the 25 Covid deployments which UK-Med was a part of, the organization was quite fortunate to have very minimal Covid-19 cases within the teams, despite working in high exposure environments of hospitals. The few positive cases were caught during travel to places of deployment or in community exposure and no individuals needed to be Medevaced for care. Effective knowledge and usage of PPE and how to operate safely were some of the key principles outlined to all deploying staff members and ensured by the deployed Staff Health lead of the response. Equally, no other major health issues arose during this time period, despite more than 200 staff being deployed by the organization during the pandemic. This was due to a robust medical clearance system and staff adhering to strict SOPs on health and wellbeing. Staff were also provided with all medical and medevac insurances plus malpractice coverage to allow for full functionality of their allocated position in the field

6.10 Mission phaseout and handover

UK-Med in all deployments ensured an effective handover and debrief with the MoH and WHO Country Office. This included an end of deployment report with key findings and challenges. In respect to the supported facilities, all documents, guidelines and SOPs developed were handed over to the relevant management for continued implementation and Training of Trainers programs developed and delivered in the final weeks for key programmatic elements (ex. IPC, ACLS) to ensure a sustainable program and widening the scope of interventions after the exit of the team from the country.

Similarly the Polish EMT operated predominantly in the countries where it was the only EMT deployed on COVID-19 response. In Lebanon, where three EMTs were deployed, each was responsible for separate hospitals and handover was done not to another EMT but to the local health authorities - or rather the doctors hired by PCPM's office in Lebanon to provide any assistance in the ICUs. The only situation resembling a handover between EMTs took place in Uganda in August 2021, where US Team Rubicon arrived a few days after the departure of the Polish EMT. Videocalls arranged between the two teams were useful in providing proper handover and sensitizing the incoming team on the challenges faced in Uganda.

6.11 Summary of lessons learned and recommendations

This part D summarizes in a succinct form mission experience from over 32 COVID-19 response deployments mounted by UK-Med (25) and Poland PCPM (7) EMTs. It lists following lessons learnt - recommendations for the EMT Secretariat, MOHs and the donor community:

1. As COVID-19 response required the EMTs to engage in substantial training or capacity-building activities, for which many medical staff were not prepared or had little previous experience, particularly in foreign country setting, it would be advisable for the EMT Secretariat or an affiliated entity to develop a course on teaching methods in multicultural setting. Standard cultural awareness courses implemented as part of EMTs' training package are focused on interactions related to direct medical care, not teaching.
2. Standards or at least basic TORs for various specialized cells should be created to facilitate more uniform response and quality control. This applies to the EMT specialized cells that were created ad-hoc during the COVID-19 pandemic response – Infection Prevention and Control or Intensive Care Unit Support – but also other types of specialized cells (e.g. surgical).
3. As a standard practice, EMT deployments to any country bar sudden-onset emergencies should be preceded by a scoping / liaison mission to discuss needs and expectations with the MoH and reach conclusion on the scope, timing and responsibilities of the EMT deployed.
4. WHO and donors are encouraged to create a funding mechanism to facilitate deployment of EMTs, particularly NGO ones, that are unable to deploy due to shortage of funding.
5. EMTs deployed on any mission should have a right to terminate it early if they are not provided with a license to practice. Skilled medical professionals are not always the best teachers, particularly in the midst of a global pandemic where they are needed at the patients' side - if not on EMT deployment, then in their home countries.

This part D highlights the following five best practices of the EMTs to follow in the future similar COVID-19 missions:

1. Response to the COVID-19 pandemic has clearly shown an advantage of EMTs having a large roster of health professionals, particularly those available for longer deployment, as the one managed by UK-Med. EMTs having rostered geared towards short-term emergency response, such as the one managed by PCPM Poland, struggled to mount an effective response in view of multiple mission requests and duration considerably exceeding the EMT deployment standards set out by WHO.

2. Recruitment of medical staff for the Polish EMT PCPM is done once or twice a year with a process including reference check, language tests, psychological tests and ultimately – a field exercise. In March – May 2021, Polish EMT PCPM's recruitment focused almost exclusively on doctors and nurses working either in ICUs or with extensive COVID-19 experience. Inclusion of over 30 new COVID-19 experienced staff to EMT's roster, coupled with growing expertise of other EMT members in COVID-19 response helped alleviate shortage of specialized staff for the COVID-19 response missions. Several of the newly recruited EMT staff were deployed to Uganda just two months later.
3. Several COVID-19 requests sent out for EMT assistance did not tackle the true issue at hand and often asked for specialists that were either not needed (ex. surgeons) or excess to requirements (ex. full ICU teams for facilities that had no ICU setup). Using lessons learned from previous deployments and having a structured set of pre-deployment calls, UK-Med firstly engaged with the WHO Country Office to understand the true picture and available resources, then began dialogue with counterparts from the MoH to allow for a careful and appropriate negotiation. This allowed UK-Med to send the most needed personnel, with deployment and individual ToR's that matched the reality on the ground. Anticipating needs in the country allowed for minimal wasting of resources and also targeted the health facilities and personnel that were most critical during surge response periods or capacity building deployments.
4. EMT deployment in Lebanon was also an interesting case of EMTs re-programming their response to meet new challenges. In the immediate aftermath of the explosion of ammonium nitrate warehouse in Beirut port (4 August 2020), several EMTs deployed to Lebanon – both governmental (Russia Emercom, Jordan, Morocco, Iran, Qatar among others) and well as three NGO EMTs – UK-Med, Poland PCPM and US Samaritan's Purse. While the governmental teams deployed field hospitals (which have not seen a major number of trauma cases as the Lebanese health system coped well with the influx of wounded), only NGO-led EMTs were flexible enough to change their response priorities and reprogram to assist the Ministry of Health of Lebanon in the COVID-19 response. Out of classified EMTs present in Lebanon, Samaritan's Purse assisted for several weeks, Poland EMT until mid-October (with one staff remaining until mid-December) and UK-MED as part of the UK EMT remained until March of 2021 supporting 6 governmental hospitals across the country.
5. During COVID-19 response missions, EMT staff were accommodated in hotels or other usual accommodation; no camps or self-sufficiency in shelter was needed. PCPM's standard practice was to allocate an extra room in the hotel for storage of PPEs and other supplies. This room also had UV-C lamps brought along by the EMT that were used to sterilize clothing and other personal equipment in the nighttime. The storage – sterilization room was managed by an EMT logistician.

The Annex C and D prove details on EMT deployments.

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9 Annexes

Annex A - Participant list for 2.1 Nursing homes governing the COVID-19 crisis: case studies in Finland, Ireland, and the Netherlands

Participant list Ireland

Level	Role	Organization
Institutional	Specialist in Public Health Medicine	Health Service Executive (HSE)
	Director of Public Health (x2)	HSE
	Clinical lead for Infection Control	HSE
	Policy Officer in the Department of Health	HSE
	National Lead for Older Persons Services	HSE
	Interim General Manager for Older Persons Services	HSE
	Infection Prevention Control (x3)	HSE
Organizational	Infection Prevention Control (x3)	Health Service Regulator (HIQA)
	CEO	Nursing Homes Ireland (NHI)
	Strategic Clinical Nurse	NHI
	Nursing home Director	Nursing home “A”
Societal	Infectious disease Nurse	A
	Head nurse	A
	Nurse	A
	Resident (x2)	A
	Family member	A

Head nurse	Nursing home “B”
Nurse (x3)	B
Family member	B

Participant list Finland

Level	Role	Organization
Institutional	Director	Finnish Institute for Health and Welfare (THL)
	Director of Hospital, Rehabilitation and Care Services	Ministry of Social affairs and Health
Organizational	Nursing home Director	Nursing home “A”
Societal	Head nurse	A
	Nurse (x2)	A
	Head nurse	Nursing home “B”
	Nurse (x2)	B
	Nurse	Nursing home “C”

Participant list Netherlands

Level	Role	Organization

National	Expert infection-prevention public health	Public Health Service
	Policy advisor chain management and care continuity	Regional medical Aid Organization
	Advisor acute care	Regional Acute Care Chain
	Coordinator strategy long-term care	Ministry of Health, welfare and Sport
	Professor geriatric medicine and care ethics	Outbreak Management Team (OMT)
	Chairperson board of directors	OMT
	Director strategy & development	National Centre of Expertise for Long-term care
	Coordinator	National Organization Client Councils
	Manager care & living	Trade Association for Healthcare Organizations
Regional	Advisor	Nursing home “A”
	Director	Nursing home A
	Quality advisor	Nursing home A
	Director	Nursing home “B”
	Manager	Nursing home B
Local	Care taker (x2)	Nursing home A
	Nurse	Nursing home A
	Manager	Nursing home A
	Resident (x2)	Nursing home A

Resident Family member	Nursing home A
Quality nurse	Nursing home A
Host	Nursing home B
Activities coordinator	Nursing home B
Resident (x3)	Nursing home B
Family member (x2)	Nursing home B
Nurse	Nursing home B
Communication advisor	Nursing home B
Head doctor	Nursing home B
Doctor	Nursing home B
Care taker	Nursing home B
Spiritual care taker	Nursing home B

Annex B - Participant list for 2.3 Secondary schools governing the COVID-19 crisis: case studies in Finland, Ireland, and the Netherlands

Participant list Ireland

Level	Role	Organization
Societal	Clinical lead for Infection Control	Health Service Executive (HSE)
	Policy officer in the Department of Health	HSE
	Clinical Lead, Child Public Health	HSE
Community	Principal	School "A"
	School nurse lead	A
	School nurse	A
Family	Parent	A
	Student (x2)	A

Participant list Finland

Level	Role	Organization
Societal	Director	Finnish Institute for Health and Welfare (THL)
	Upper Secondary School Policy Lead – Vocational Schools	National Agency for Education
	Upper Secondary School Policy Lead – General Secondary Schools	National Agency for Education
	Advisor in Upper Secondary School Policy (x2)	THL
	Upper Secondary School Expert	Helsinki City Administration

	Expert in Education Policy	Finnish Union for Teachers
Community	Member of the National Board (x3)	National Student Union
	Principal	School “A”
	Psychology Teacher	School “B”
Family	Student (x10)	School “B”

Participant list Netherlands

Level	Role	Organization
Societal	Director for Secondary Education	Ministry of Education, Culture and Science (OCW)
	Project leader Corona	OCW
	Paediatrician	RIVM
	Advisor	Foundation Guidance Service for Waldorf Schools
	Head youth health care	Council
	Education crisis team	Municipality Amsterdam
	Strategic advisor secondary education	Municipality Amsterdam
	Head board of directors	Association of secondary schools
	Crisis team project leader	Association of school boards in Amsterdam secondary education
	Head board of directors	National Action Committee Students
	Expert education - youth	Dutch youth institute
	Broad member	General Union of Education

	Head executive board	General Association of School Leaders
	Director	Parents & Education
	Director	Public Secondary Education Foundation Progresso
Community	Principal	School “A”
	Principal	School “B”
	Principal	School “C”
	Teacher (x7)	A
	Teacher (x2)	B
	Teacher (x2)	C
	Care Coordinator	A
Family	Student (x2)	A
	Student (x12)	B
	Student (x8)	C

Annex C: List of EMT missions that were the basis for this lessons learned report.

UK-Med Independent COVID-19 Deployments and requesting body **Eswatini -** Support for a BioMedical engineer training program (WHO Country Office) **Mauritania** - Support for roving capacity building and training team (EMT Request for Assistance) **Djibouti** - Support for roving capacity building and clinical care team (WHO Country Office) **Yemen** - Support to training of ICU staff (WHO and MoH Yemen) **Afghanistan** - Delivery of COVID-19 training package (IOM Afghanistan) **Myanmar** - Delivery of COVID-19 training package (Humanity and Inclusion) **United Kingdom** - Domestic support to the setup of a Nightingale field hospital in Manchester (UK Government) **UK-Med deployments as part of the UK EMT for COVID-19 Response and requesting body** **Lebanon** - Support for capacity building and training to governmental hospitals post-blast (EMT Request for Assistance) **Burkina Faso -** Delivery of COVID-19 training package (ALIMA) **Cambodia -** Support for capacity building and preparedness to governmental hospitals (EMT Request for Assistance) **Ghana** - Support to national coordination structures and development of protocols (WHO Country Office) **Malawi** - Support for capacity building and training to governmental hospitals (EMT Request for Assistance) **Nepal -** Assessment team for surge capacity support to governmental hospitals (FCDO) **Tunisia -** Support for surge capacity to governmental hospitals (EMT Request for Assistance) **Bangladesh -** Support for surge capacity and infrastructure assistance (IOM Bangladesh) **Armenia** - Support for capacity building and training to governmental hospitals (EMT Request for Assistance)	1. **Italy** - city of Brescia in Lombardy. Dates: 30 March - 9 April 2020. Staffing: 7 EMT PCPM + 5 from Military Institute of Medicine Mode of transportation: military aircraft. Funded by: Government of Poland. Physicians and medical staff of EMT PCPM, supported by medical staff seconded by Warsaw's Military Institute of Medicine, worked in the ICU of Brescia City Hospital during the critical 10 days at the peak of the first wave of pandemic. The mission was organized based on a bilateral agreement between the governments of Poland and Italy and funded by the Polish government. 2. **Kyrgyzstan** - Bishkek and 5 cities in the Ferghana Valley. Dates: 18-27 April 2020. Staffing: 10 Mode of transportation: private jet (private donation) Funded by: WHO At the request and thanks to funding of WHO, Poland EMT PCPM supported case management, as well as on-job training and capacity building in IPC and COVID-19 case management. An important challenge was streamlining the IPC procedures in the hospital, including designation of red and green zone. 3. **Tajikistan** - Dushanbe, as well as hospitals in Pamir (Gorno Badakhshan Autonomous Region) and Ferghana Valley Dates: 9-27 June 2020 Staffing: 21 Funded by: WHO At the request and thanks to funding of WHO, Poland EMT PCPM supported case management, as well as on-job training and capacity building in IPC and COVID-19 case management. An important challenge was streamlining the IPC procedures in the hospital, including designation of red and green zone. The mission faced lack of cooperation from the side of Tajik authorities who even discharged patients from the hospitals to pretend the pandemic was under control.

Chad - Support for surge capacity to governmental hospitals (EMT Request for Assistance) **Zambia** - Support to national coordination structures and development of protocols (FCDO) **Eswatini** - Support for surge capacity to governmental hospitals (EMT Request for Assistance) **Lesotho -** Support for surge capacity to governmental hospitals (EMT Request for Assistance) **South Africa -** Support for preparedness to governmental hospitals (WHO Country Office) **Botswana** - Support for capacity building and training to governmental hospitals (EMT Request for Assistance) **Namibia** - Support for capacity building and training to governmental hospitals (EMT Request for Assistance) **Papua New Guinea -** Support for surge capacity to governmental hospitals (EMT Request for Assistance) **Solomon Islands -** Support for surge capacity to governmental hospitals (FCDO)	4. **Lebanon** - Halba and Tripoli hospitals in northern Lebanon Dates: 20 August - 15 October 2020 Staffing: 10 Funded by: Government of Poland Following surge deployment in response to the explosion of ammonium nitrate in Beirut, EMT PCPM remained in Lebanon and at the request of WHO and the Lebanese MOH provided staffing support to two out of six governmental hospitals tasked with COVID-19 case management, located in Halba and Tripoli. The mission initially planned for one month had to be extended due to continuous shortage of both doctors and nursing staff in the two hospitals. The mission was terminated due to the quickly deteriorating pandemic situation in Poland. 5. **Madagascar** - Antananarivo Dates: 25 August - 5 October 2020 Staffing: 3 Funded by: WHO At the request of WHO, EMT PCPM deployed its three most experienced staff (one emergency medicine physician and two nurses) to provide staffing and training support to the UN clinic in Antananarivo. 6. **Ethiopia** - Addis Ababa Dates: 21 September - 16 October 2020 Staffing: 21 Funded by: Government of Poland Further to an invitation from the Ministry of Health of Ethiopia, a team of Poland EMT PCPM supported the operations of the largest COVID-19 temporary hospital in East Africa, set up in the Millennium Hall conference center in Addis Ababa. In this 600-bed facility, EMT PCPM's support focused predominantly on operations of the 8-bed ICU and case management. One of the main challenges was improper sedation of the patients, resulting from shortage of opioid drugs. 7. **Uganda** - Entebbe and Kampala Dates: 16 July - 14 August 2021 Staffing: 14 Further to the EMT Secretariat call, a team of Poland EMT PCPM supported establishment of a 3rd Intensive Care Unit in Uganda, located at the Entebbe Regional Referral Hospital.

Annex D: Sample TORs published by the EMT Secretariat

EMT call for assistance for the African Region – 24 June 2021

Terms of Reference: COVID-19 EMT specialized care team

- Strengthening or increasing the capacity of health facilities as a specialized care team. Review capacity of target health care facilities to manage and treat patients with COVID-19 infection, including isolation and intensive care unit (ICU) capacity.
- Advise on the development/adaptation of clinical management protocols for respiratory patients with COVID-19, including protocols to treat and manage potentially infectious patients in primary care settings, non-health facilities, and the community, including referrals and patient transport/transfer, as appropriate.
- Provide technical support to establish referral management and triage systems to identify priority cases (from identification until treatment), including isolation and ICU admission, at selected health care facilities;
- Provide trainings on IPC guidance in relation to COVID-19 infection in conjunction with clinical management, including but not limited to:
    - early supportive therapy and monitoring
    - management of hypoxemic respiratory failure and acute respiratory distress syndrome (ARDS)
    - management of septic shock
    - prevention of complications
    - specific anti-nCoV treatments and management of side-effects
    - appropriate PPE use (donning and doffing)
    - waste management.
- Identify clinical staff at critical points within a hospital (e.g. reception/triage staff, wards, specialised departments etc.) and train them in standard precautions towards infectious disease management.
- Develop guidance and train on practical aspects of IPC measures in high dependency and intensive care units.
- Responding to all medical care needs of all hospitalised COVID-19 cases; providing training to all local clinical and allied health personnel
- Operational support for the review and set up of a COVID-19 treatment centre in tents and/or public spaces, as needed.

Composition: COVID-19 EMT specialized care team

Each Emergency Medical Team deploying as a specialized care team comprising of

- Team Lead
- Intensive Care Physician
- Nurse with ICU experience
- IPC expert
- Biomedical engineer
- Operational support specialists

Additional expertise requested includes:

- Rehabilitation Specialist
- Imaging based diagnostics
- Paramedic/EMS specialist