When the Covid-19 pandemic broke out in Europe between the end of February and early March 2020, lockdown measures were adopted hurriedly and water utilities experienced a high level of pressure to ensure the continuity of essential services despite significant disruptions.

This chapter provides an account of the initiatives taken by Aqua Publica Europea – an organization of more than 60 publicly owned water utilities from 14 European countries – to support members. By facilitating the sharing of information and experience among peers, Aqua Publica Europea helped public utilities to quickly develop contingency plans. This was only made possible thanks to the generous contributions of staff at various utilities who gave their time despite a stressful context to help colleagues operating in areas not yet affected. Public ownership of water utilities proved fundamental in allowing for such transnational solidarity. Finally, the authors outline what public operators expect will be the long-term impact of the pandemic on the water sector.
INTRODUCTION

In Europe, the Covid-19 pandemic first broke out in Northern Italy on February 20, 2020. The initial reaction of the Italian government was to declare a lockdown in the affected towns (so-called “red zones”) and adopt milder restrictions in the surrounding areas. In the rest of the country, measures were limited to bans of large gatherings of people. Meanwhile, in other European countries, life (and business) continued almost as usual, with important public events ranging from football matches to national elections still taking place at the beginning of March.

Over the following weeks, the situation evolved rapidly. Italy adopted strict nationwide lockdown measures on March 8, followed by Spain on March 14, France on March 16, and a majority of other European countries soon thereafter. In parallel, external borders were closed and strict national border controls were re-established within the Schengen area (a zone encompassing 26 European countries with free circulation for goods and people) to only allow for essential supplies to transit.

This brief chronology of the outbreak in Europe shows that, despite the news coming from China and South-East Asia as early as mid-January, most European countries were not expecting such a quick spread of the coronavirus within their territories. Over a very short period, they moved from a state of normality to an unprecedented situation in which mobility and social life were restrained, many business relations were suspended or disrupted, and a certain number of socio-economic activities considered essential were hurriedly reorganised in order to ensure their continuity.

Water utilities were among the actors that experienced and managed a high level of pressure to ensure the continuity of an essential service while protecting their employees’ safety, in a context of heightened uncertainty and significant limitations to normal operability. In a matter of days (sometimes hours), water utilities had to
completely rethink the way they operate to adapt to the exceptional situation. They had to adopt new internal procedures and find ways to communicate with authorities, users and partners. Further, they had to respond to growing concerns about tap water safety in a context where scientific knowledge about the new virus and its behaviour were extremely limited.

Most operators effectively relied on their existing risk management protocols to develop contingency plans that allowed for a swift and orderly reorganization of operations, which avoided service interruptions. Nonetheless, given the absolute novelty of this emergency, some complications were difficult to predict, or simply out of a utility’s control (e.g. sourcing of some essential supplies). Due to the lack of comparable past experience, managing this kind of crisis was uncharted territory for all operators. In this context, water utilities – and in particular public water utilities, which cannot rely on a multinational structure to learn what works or not elsewhere in the world as may big private companies – expressed a strong need to exchange and share information with their European peers.

In this paper we present the initiatives undertaken by Aqua Publica Europea (or Aqua Publica) to respond to this need for knowledge exchange and, based on this experience, we draw some lessons on the role that the public sector can play in ensuring collective well-being in times of crisis. In the following section, we describe the main activities carried out by Aqua Publica to organize the exchange of information on best practices to ensure service continuity during the Covid-19 emergency, as well as some initiatives taken jointly with other actors and institutions with the aim to contribute to a better coordination of the collective effort of tackling the impact of the pandemic. We then discuss how the action of Aqua Publica helped European public operators take better informed decisions regarding the management of the crisis, thus reducing the level of uncertainty. The association was able perform this task thanks to the generous contributions of utility staff who, despite the stressful situation they found themselves in, gave their time to share expe-
riences and information with colleagues operating in areas not yet affected by the pandemic to help them prepare. We argue that such transnational solidarity is key to strengthening the capacity of the public sector, which is fundamental to ensuring collective well-being. Finally, we examine the expected long-term impact of the pandemic on the role and mission of public water operators, outlining both challenges and opportunities.

**AQUA PUBLICA’S SUPPORT FOR PUBLIC WATER UTILITIES**

Aqua Publica is a not-for-profit organization that gathers 66 publicly owned water operators from 14 European countries that together provide water and sanitation services to over 80 million citizens. Aqua Publica was created in 2009 by a handful of utilities with two complementary objectives: promoting public water management and providing European public water operators with a platform to share and exchange best practices on concrete management problems.

The creation of Aqua Publica followed the successful re-municipalization of water services in Paris in 2009, as well as the initiatives of various movements that were disputing the model of private management that was still politically predominant in other parts of Europe at the time. In that context, there was a growing awareness that public forms of water provision could challenge private multinationals precisely in what was thought to be their strongest feature, namely the ability to organize services efficiently, thus ensuring affordable tariffs and providing universal access to a high-quality service. Consequently, the founders of Aqua Publica believed that public water management needed its own representation, as the choice between a public and private model was not grounded in technical or economic justifications but on essentially political motives. However, in order to overcome some structural asymmetries between public and private operators (specifically, the knowledge advantages that multinationals have based on their
scale), the founders believed that public operators needed to have their own forum to discuss technical solutions and learn from each other in ways that were not dependent on the know-how of private multinationals.

The intuition of the founders has proved right, as illustrated by the continued growth of the association. Members collectively strive to bring the voice and values of the public service into policy-making while also working to facilitate peer-to-peer learning processes. These initiatives include operator-led working groups on specific topics, its program for short-term international staff exchanges for young professionals employed by the utilities, and seminars on technical problems where members use their expertise to identify the best solutions (for more information see www.aquapublica.eu).

When it became clear at the beginning of March 2020 that the coronavirus was likely to spread all over Europe, operators started to ask their colleagues from areas already affected by the pandemic (mainly in Italy and Spain) for information about the impact of Covid-19 and lockdown measures. Aqua Publica was able to rely on its existing exchange platform to swiftly set up dedicated initiatives responding to needs of its members. More precisely, Aqua Publica developed a strategy revolving around two axes: internal – organizing the collection and sharing of information on measures and best practices on crisis management; and external – coordinating with other organizations to ensure consistency of policy responses at the European level and to source additional relevant information for members. These two levels of action will be described further in the following sections.

**SHARING INFORMATION AND EXPERIENCE**

Because public water operators were at the forefront of emergency response, they had to adopt effective measures extremely fast and adapt them as the situation evolved. Such urgency was particularly
intense in the areas of Southern Europe that were hit first by the pandemic, where the spread of the coronavirus was not fully anticipated – at least not with such speed. When strict lockdown measures were adopted first in Italy and then in Spain, operators from other European countries began to ask how their Mediterranean colleagues were responding to the multifaceted challenge of ensuring continuity of service while protecting the safety of employees in a context where social distancing rules and mobility limitations were hampering normal operations.

To respond to this knowledge gap, Aqua Publica Europea facilitated knowledge exchanges and experience sharing based on a three-fold approach:

- ensuring direct communication between utilities
- collecting relevant information and knowledge related to crisis management from external sources (World Health Organisation, European Union’s technical bodies, etc.)
- providing synthetic, practical and ready-to-use support material based on information shared internally between members and from external sources.

In practice, this assistance materialized with thematic webinars as well as regular email updates integrating operator-to-operator questions and answers, and an accessible and regularly updated online resource library that included documents from members and external resources. The details of these exchanges are too lengthy to replicate here, but the main topics addressed were as follows:

- How to prioritize functions and reorganize teams in order to minimize physical contact and ensure back-up in case a colleague falls ill (referred to as “segmentation”);
- How to quickly reorganize IT infrastructure to ensure that a maximum number of employees are able to work remotely while minimizing security risks;
- How to ensure monitoring operations on drinking water and wastewater quality while complying with social distancing rules and travel limitations;
• How to ensure customer care service when offices are closed in compliance with lockdown provisions and how to reorganize provision from suppliers in order to limit contact;
• How to reorganize internal office spaces when lockdown provisions are partially relaxed.

Webinars and videoconferences during the lockdown were attended by a large number of participants which, on average, was higher than for in-person meetings organised by Aqua Publica during “normal times”. This shows that the need for exchange during the pandemic was particularly strong, due to the fact that operators could not build on previous comparable experience to develop their strategy for crisis management and, consequently, the sense of uncertainty was high. As Dr. Marco Blazina – director for wastewater treatment operations at MM (the public water operator of Milan, Italy) – stated during one of the webinars: “The Covid-19 emergency taught us that, in order to face disrupting and unexpected situations, we need to be versatile and open-minded about the search for solutions. This means being ready to question any aspect of existing processes, and to explore options that, until that moment, we considered impossible”.

However, aside from the need to “manage the unknown”, participants found the meetings useful for another reason related to the very nature of Aqua Publica. The fact that the association is a network of utilities allowed members to bring together technical expertise to foster concrete discussions. Furthermore, the diversity of participants, including both management and technical staff from urban and rural, larger and smaller operators, provided the opportunity to have a wide view of the topics discussed, from operator strategy to on-the-ground questions. Finally, the fact that all participants were from public utilities increased the sense of trust and facilitated the peer learning process. Participants could recognize in their colleagues people facing the same problems and talking the same language, without fear that they had hidden agendas or commercial interests in the solutions they shared or proposed.
Overall, the knowledge exchanges made it clear that despite significant differences in both the varying gravity of the pandemic across territories and more structural factors (such as the size of operators and different national legislations), the members of Aqua Publica were facing very similar challenges and uncertainties. Consequently, through their participation in the online meetings or through the synthetic documents prepared by the Secretariat of the association, operators could be reassured that the solutions they were adopting were consistent with what their peers were doing, and they could learn from the experience of others about factors or options not originally taken into account. This sharing of information was particularly relevant for smaller operators from rural areas who did not have specialized staff dealing with risk management.

We can therefore say that the initiatives carried out by Aqua Publica helped the European public water sector to improve the efficacy and speed of its response to the challenges raised by the pandemic. Despite the existence of the European Union, governments struggled to coordinate amongst themselves effectively on measures to counteract the spread of Covid-19, especially at the beginning of the emergency. Aqua Publica played a complementary role to these efforts by ensuring greater coordination and homogeneity of the responses across the continent with regard to essential water and sanitation services. (It is also worth noting here that drinking water quality and wastewater treatment processes are regulated by the European Union and not by individual countries.)

The contents of the webinars and the other materials shared by members, as well as the main lessons learned by the operators in the management of the crisis, were then collected and summarized in a publication called Managing the unexpected - European Public Water Utilities Facing the Coronavirus, which Aqua Publica produced in partnership with the Global Water Operators Partnership Alliance initiative (under the umbrella of UN-Habitat), available for free at the Aqua Publica’s website for the benefit of other operators across the world that might face similar challenges.
In addition to the internal exchange activities for the benefit of members described in the previous section, Aqua Publica also worked on external initiatives in parallel with what members were doing in their own individual contexts. The main concern was reassuring citizens about the continuity of the water service. Acknowledging a high level of responsibility towards citizens, the members of Aqua Publica endorsed an early public statement published in March by the Association’s Management Board. Translated into many languages, the statement aimed to provide reassurance to citizens that their water utilities were implementing measures to ensure continued and safe services. Through this immediate commitment, public operators were transparent with citizens in a time of great uncertainty. This statement was supported in practice by uninterrupted and safe water supplies throughout the emergency.

Another widespread concern among citizens was about tap water safety. While TV reports showed supermarkets running out of bottled water, since people feared that tap water could be a source of transmission of the virus, many Aqua Publica members launched communication campaigns to reassure users about tap water safety. Aqua Publica joined this effort by creating a video that collected the campaigns of its members and by relaunching the individual campaigns on social media (see www.aquapublica.eu/article/members-activities/aqua-publica-europea-members-ensuring-tap-water-safety-during-covid-19).

As water services can sometimes be overlooked and taken for granted by the population, public operators have put the spotlight on the dedication of their employees during the pandemic, with campaigns recognizing and thanking those working at the forefront on maintenance, in laboratories, in customer service and in many other functions. The association produced a video gathering these individual initiatives to show the faces of the public water sector
and highlight workers’ crucial role in ensuring uninterrupted service (see www.aquapublica.eu/article/members-activities/video-healthy-and-safe-water-supply-guaranteed-thanks-commitment-water).

Aqua Publica was also in regular dialogue with various European Union institutions to ensure that essential supplies (including PPE, chemicals, etc.) continued to reach water operators despite the closure of the EU’s internal borders and significant disruptions to international supply chains. Finally, Aqua Publica joined forces with other organizations in sharing and making available good practices and lessons learned from the management of the Covid-19 emergency. In particular, Aqua Publica co-organized a webinar on the emergency response with the Global Water Operators Partnership Alliance (GWOPA), facilitated the participation of its members to other webinars organized by GWOPA and, as mentioned in the previous section, co-published the report Managing the Unexpected. The motivation behind this collaboration is that water is a common good and consequently should be managed as a publicly owned service for the general interest; similarly, the knowledge and expertise generated within the public sector should be available freely for the benefit of all. The solidarity that fuels the internal activity of Aqua Publica therefore characterizes its external relations as well.

PUBLIC SERVICE, SOLIDARITY AND COLLECTIVE WELLBEING

As noted earlier, the activities carried out by Aqua Publica to facilitate the exchange of information and good practices among public water operators would not have been possible without the generous contributions of the staff of member utilities who gave their time – often without extra or overtime compensation – to share experiences and explain to their colleagues from all over Europe the solutions they had adopted in their context. Since there was no economic incentive to these contributions, we would argue that the most important motivation was a genuine spirit of solidarity to-
wards other colleagues about to face similar problems, as well as a sense of awareness of and pride in the responsibility of carrying out an essential service that, more than ever, was crucial for collective wellbeing and security.

We do not intend to suggest that private operators’ employees have not shown similar levels of dedication and commitment during the pandemic; far from it. Our argument, rather, is that because of the profit-making constraints of private companies, and the strictly defined productivity targets these constraints involve, the kind of transnational, trans-institutional solidarity we have described above among public water operators would have been much more difficult to realize among private water companies. Indeed, we are unaware of similar non-remunerated knowledge-sharing activities among competing private water firms.

Moving from the utilities’ staff to the level of operators themselves, we can also mention examples of solidarity of public water utilities helping other public sector services (like the case of VIVAQUA – Brussels’ water operator – producing and donating disinfectant gels and other protective equipment to local public hospitals). There are also several cases of public water operators suspending water billing before similar decisions were required by governments, as well as utilities that increased the allocations dedicated to households facing difficulties with payment in the expectation of the impact of the economic downturn resulting from the pandemic.

More generally, the Covid-19 emergency has proved that some societal challenges cannot be addressed through market-based solutions, but require strong, well-staffed and well-financed public services ensuring universal access. Only a universal public health system can ensure adequate health protection for all and thus limit the spread of the coronavirus; only a public water service can ensure universal access to water and sanitation that, beyond being essential for living, is also crucial for the sanitation practices that limit the spread of the virus. We could also extend this argument to other essential services. In short, only a public service that is not
constrained by profit or competition objectives can look beyond the market value of its operations and take initiatives that look at general interest and collective wellbeing.

**LOOKING FORWARD**

While many countries around the world are still struggling with the acute phase of the pandemic, people and organizations alike are trying to assess the impact of this unprecedented crisis both on their individual situation and on society. This reflection is taking place also within Aqua Publica Europea and, although drawing conclusions for the long term is certainly still premature, exchanges with members point to three main domains where the pandemic is expected to have long-lasting effects: the role of water operators in society; the internal work organization of operators; and the economic impact of the pandemic on water service and the urgency of a new economic model to finance them.

**The role of public water operators in society**

Many members of Aqua Publica have noted a rise in the level of satisfaction and trust amongst their users during the pandemic, with their quick and successful actions having helped to renew or strengthen citizens’ awareness about the importance of universal access to safe water for collective health. There are additional, more specific, elements that can also help explain the increased confidence in water services. Due to social distancing rules, many operators have introduced innovative tools to interact with users (based largely, but not entirely, on mobile applications), while customer offices were closed. For example, customers were asked to perform small tasks in their home (like reading the meter) while being guided remotely by operators’ staff. Not only did this help to create new direct ties, but it likely contributed to increasing user awareness about the complexity of the service that allows them to access safe water whenever they turn on the tap at home.
Many public operators also promoted solidarity-based initiatives beyond the realm of water services. This may have helped raise the awareness both of citizens and water operators themselves of the social responsibility that public water utilities have towards their local communities. Several members of Aqua Publica have already started broadening the scope of their mission in their strategic planning by acknowledging the crucial role they have in the ecosystem of public services and in societal progress at large. Examples of this expanded mission include initiatives to co-fund education and research efforts in the environmental domain, strategies for the greening of their supply chain through public procurement procedures, campaigns to raise awareness of the importance of tap water consumption, cooperation with other social security services for targeted support to households in need (who tend to consume more water as they depend on less efficient building and house appliances), and partnerships with other companies and sectors (energy, waste, farmers etc.) to reduce pollution and increase recovery of energy and nutrients from water.

Many good practices in this domain are collected in another publication of Aqua Publica Europea entitled The Public Water Service of the Future (www.aquapublica.eu/article/news/publication-managing-unexpected-european-public-water-utilities-facing-corona-virus). We believe this trend will become stronger in the years to come.

**The internal organization of water operators**

Water operators had to quickly introduce significant changes to their organization to ensure service continuity during the pandemic. Some of these changes are likely to have long-term impacts on the organization of water utilities: the massive shift to working remotely; the importance of risk management approaches and strategies; new ways of communicating with customers. All these transformations have the potential to modify the vision that water utilities have of their own internal way of operating and, conse-
quently, can affect future strategies regarding management, workforce and investments.

However, when discussing the impact of the Covid-19 on operators’ internal organization, we would like to emphasize in particular the renewed attention to the role and contribution of workers to the company’s decision making. Many operators have stressed – including via dedicated communication campaigns – that ensuring business continuity throughout these difficult times was only possible due to the extraordinary commitment of the operators’ staff. When presenting their approach for staff reorganization, many operators have highlighted the participation of employees in decision making (including safety rules and work organization) and their involvement around shared objectives, noting that these inputs have been essential to tackling challenges successfully.

This crisis gives the opportunity for the public water sector to elaborate a more specific model of public workforce management – as compared to the private sector. It provides an opportunity to underscore the importance of frontline workers in defining and realizing the public service’s mission, precisely as a condition to increase the resilience of the operators. Aqua Publica will continue to support operator-to-operator cooperation on this topic and provide its members with a framework to confront decisions, develop practices and exchange ideas.

**The financing challenge**

Financing is another domain where water utilities are currently assessing the consequences of the pandemic. Although the severity of the economic impact varies across Europe, members of Aqua Publica highlight two phenomena: a short-term decrease of revenues due to the freeze of industrial and tourist activities (in particularly affected areas, this may decrease as much as 20% on an annual basis); an expected medium-term rise in the number of people facing difficulty to pay the water bills due to a protracted economic downturn and rising unemployment. The worsening of
the economic situation occurs at a time when financing needs for the water sector are already significant throughout the EU. A very recent (but pre-pandemic) study by the Organisation for Economic Development and Cooperation-OECD (2020) estimates that investment needs to be an additional €289 billion (compared to current expenditure) for the water sector in the EU for the next decade – with some countries already reaching the affordability threshold for significant parts of the population.

In the recovery phase following the Covid-19 emergency, leaders and citizens have already emphasized the need to take the opportunity to move towards more sustainable financial models, but also to ensure fairness for citizens and improve preparedness for possible future shocks. The members of Aqua Publica Europea have the potential to be great partners in the considerable efforts to be deployed by working towards all three of these goals. Public water services are essential services that leave no one behind. With a citizen-focused approach, rather than profit-seeking objectives, public water operators seek to develop socially fair and responsible practices, from special attention to the most vulnerable clients to inclusiveness of all citizens, including remote areas. In this framework, the members of Aqua Publica are working to put forward concrete proposals that can address the financing gap, while ensuring social and territorial equity and long-term sustainability.

First, the traditional tariff/tax component will need to evolve towards “smarter” and fairer approaches that better reflect the differentiated pressure on water resources caused by different types of users. New approaches to raise additional revenue can include, for example, a tax on property developers for soil-sealing (which would also capture the economic value this actor gains from the access to high quality water and sanitation services), or more accurate mechanisms to charge the cost of water pollution across users, like the approach based on the so-called “Extended Producer Responsibility.”. Both these approaches are currently under discussion at the EU level and have been tested in some countries.
Second, the shift towards a more circular economy can also create new opportunities for the financing of water services. Regardless of the approach for economic recovery chosen, it will be impossible to ignore the sustainability challenge. From nutrient recovery to energy neutrality, water operators hold a strategic position in efforts to tackle climate emergency. In this framework, conducive regulation and incentives can foster the creation of new value chains connected to other sectors (agriculture, construction, etc.) that can open new economic opportunities, trigger investments and support the shift towards a more sustainable economy.

Finally, and probably most importantly, minimizing financial needs and liabilities must remain the key objective. Of course, public water operators must continue to focus on efficiency and performance improvement to make the best use of existing assets and resources. However, thanks to their non-profit nature and their consequent long-term view, public operators can and must propose solutions that provide structural responses to water challenges in terms of quantity and quality. Most often, this means moving away from “easy technological fixes” – as even the European Commission demands (2019, ii) – which are easy to implement but extremely capital-intensive. Instead, operators must devise solutions that ensure that water resource are protected by preventing pollution at source or by relying on natural capital to address water deterioration or water scarcity problems (so-called nature-based solutions).

The possibility of implementing these solutions lies with public authorities (as they imply regulations and fines or politically sensitive land-allocation decisions). However, the mission of a public operator also includes the responsibility of helping public authorities in devising solutions that minimize costs for current and future generations. Some good practices by Aqua Publica’s members are collected in *The Public Water Service of the Future* as well as in the publication *Water and Climate: European Public Water Operator’s Commitment to Water Resources Protection* (www.aquapublica.eu/document/water-and-climate-european-public-water-operators-com-
CONCLUSION

Opportunities and challenges can be identified in all historic moments characterized by deep transformation of social organization. Although things will not be the same as they were before Covid-19 in many respects, the continued supply of safe drinking water to all, and well-performing sanitation services, will remain critical for the wellbeing and security of our societies. The water sector will continue to play a key role in the collective efforts toward a more sustainable model of development.

In this framework, strengthening the capacities of public water operators – like all other public services – must remain a strategic political objective for national and international institutions. While specific companies’ programs for staff training remain essential and resources continue to be needed for this purpose, the public nature of these services make international cooperation an effective and viable complement for capacity development. The high attendance at the virtual meetings hosted by Aqua Publica prove the importance that international peer-to-peer learning has for public water operators.

Together with other international institutions like GWOPA, Aqua Publica Europea will continue to facilitate cooperation, knowledge sharing, and partnerships among public water utilities. Capacity development is important for the water sector per se, but it also represents an essential element of a broader societal effort to ensure safety and wellbeing for all, and to strengthen our collective resilience to current and new threats.

This is the mission of Aqua Publica but, once again, its realization will not be possible without the effort and commitment to solidarity of public water operator staff. As the President of Aqua Publica Europea (and also President of Eau de Paris and Deputy-Mayor of Paris in charge of the Environment), Célia Blauel has summarized
it: “Across Europe, we are all in this together and, under these exceptional circumstances, we need to show commitment, solidarity and work together to, above all, ensure continuity of an essential public service so that citizens already deeply affected by Covid-19 can continue to access, safely and without worries, high-quality drinking water.”

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