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How the health services of Emilia-Romagna, Lombardy and Veneto handled the Covid-19 emergency

Federico Toth

This article considers how the regional health services of Emilia-Romagna, Lombardy and Veneto handled the Coronavirus emergency in the initial months of 2020. The temporal focus will be limited to what was called Phase 1, covering the period between 31 January 2020 (the date on which the Cabinet declared a state of emergency) and 4 May 2020 (when, with the coming into force of the Prime Ministerial Decree of 26 April, Phase 2 formally began). The decision to focus on Emilia-Romagna, Lombardy and Veneto is justified by the fact that at least during the period we are considering, these regions, together with Piemonte, were the ones most severely affected by the spread of the disease, both in terms of the number of deaths and in terms of the number of confirmed cases¹.

The article is structured as follows. In the first section we describe the nature of the challenge posed by the pandemic, bearing in mind that it represented a demanding, indeed epoch-making, ‘stress test’ both for the country’s health care system and indeed for Italy generally. Decision-makers were placed under pressure at all levels of the system, being called upon to make dramatic and urgent decisions in conditions of extreme uncertainty. In the second section, we shall focus on those who, within each individual region, actually managed the crisis: who took charge of the responses; the role assigned to experts; the emergency structures that were put in place. In the subsequent sections we shall examine each of the regional responses in turn. In each case, we shall seek to interpret the sequence of events – events that are well known and have been widely reported on in the media – in the light of concepts borrowed from the field of organisation theory. Special attention will be paid to the way in which the regions interacted with the Government at national level, to the speed with which they adopted certain measures and to their capacity actually to make use of the information available to them. Starting from a comparison of the different regional experiences, in the concluding section we shall develop some themes of a more general nature, especially what must be done and what must be avoided in dealing with unforeseen emergencies like the one created by the first wave of the Covid-19 pandemic.

The Covid-19 emergency: the regional health systems in the face of a *jamais vu*

Despite the large number of infections registered in China, and despite the global state of emergency declared by the World Health Organisation (WHO) on 30 January, the first wave of the pandemic took Italy by surprise. The regional health systems – to a greater or lesser extent in each case – found themselves unprepared to manage a pandemic of such dimensions.

The author of this article is convinced that it would have been unreasonable to expect the opposite. The SARS-CoV-2 virus was then new and unknown: it was not known how it had originated, what its modes of transmission were, what its main symptoms or incubation periods were, how it could be treated or any of the many other crucial things besides. With regard to none of these things was there any solid scientific evidence. Added to this was the fact that Italy was the first European country to be hit by the pandemic: the information emerging from China was patchy and perhaps unreliable; there were no countries similar to Italy which could either be emulated or could supply relevant experience to draw upon.

Policy makers both nationally and regionally called upon the help of experts (virologists, epidemiologists, infectious disease specialists); but as they had no evidence-based information available, they too languished in a state of uncertainty and so expressed contrasting opinions offering contradictory advice concerning the measures to be adopted.

To borrow a pertinent expression from Karl Weick, Italy's health system found itself confronted with a *vu jàdé* (Weick, 1993), or in other words, with the exact opposite of a *déjà-vu*. A *vu jàdé* (or, to use the more common expression, a *jamais vu*) consists in a completely unexpected event, one never seen before, one that has no resemblance to anything already known, one to which it is difficult to apply emergency procedures that have already been developed or even to adapt responses applied in the past.

In these circumstances – in the author's opinion – it was impossible not to make mistakes. Both policy makers and the doctors working on the front line were obliged to proceed by means of trial and error. Both in the political and in the clinical spheres, responses were made by relying to a considerable extent on intuition, on 'playing it by ear' and on learning by doing.

Who was in charge and what role was assigned to experts in each of the regions?

It will be useful to start from those who were at the helm in each of the three regions here considered when the pandemic first broke out, considering the characteristics of the regional summits, who acted as 'advisors to the prince' and what operational structures each region established in order to deal with the health emergency.

We begin with Lombardy. At the time of the outbreak, the regional president was the lawyer, Attilio Fontana, who had been elected in 2018. The regional councillor with responsibility for the Welfare portfolio was another lawyer, Giulio Gallera, who had also had this role in the preceding Maroni administration beginning in 2016. Director General of the Welfare Department in the initial months of the emergency was yet a third lawyer, Luigi Caiazzo, who had had a long and distinguished career in the police force. It was therefore apparent that none of the three key positions was occupied by an expert with either a medical background or prior experience in the management of public health systems.

In order to manage the crisis, on 12 March 2020, the Lombardy region set up an emergency response unit, staffed by no fewer than 154 people, and a task force of 16. As a comparison with the other regions reveals, the size of the emergency response unit was obviously too large: it is difficult to imagine a body consisting of over 150 people taking speedy decisions or coordinating effectively with its national- and local-level interlocutors. On 7 April, a regional scientific and technical committee was instituted, its composition being revised ten days later when the number of its members was set at 27 including several researchers of international standing. Notwithstanding the high profile of its members, the committee seemed to have been established rather late in the day when set against the background of the actions taken by the other regions; for, it was set up almost a month and a half after the first case of Covid-19 had been positively identified. However, from an analysis of press reports it is apparent that in the absence of a formally constituted technical and scientific committee, the leadership of the Lombardy region consulted a pool of experts (consisting of eight university professors and hospital consultants) from the initial onset of the emergency.

This brief description of the chain of command suggests that the Lombardy region suffered from a number of shortcomings: an inexperienced regional president with a less effective media profile than others; a lack of technical expertise on the part of the regional councillor and director general with responsibility for the Welfare portfolio; the belated appointment of the emergency response unit and the scientific and technical committee; the overly large size (and therefore, presumably, the effectiveness) of these bodies. In Lombardy it was not clear who was acting as ‘advisor to the prince’ or to what extent the experts were consulted either formally (as members of the scientific and technical committee) or informally.

Let us now consider the case of the Veneto region. The regional president was a man who had been minister of agriculture in the fourth Berlusconi government and had headed the region since 2010, Luca Zaia. Even before the start of the Covid emergency, Zaia was a popular figure – as was revealed, in November 2019, by a SWG poll², which identified him, among the regional presidents, as the one with the highest approvals ratings. The Veneto administration’s management of the

pandemic during its initial months brought further increases in the popularity of Zaia, who in September 2020 was re-elected (for the third consecutive mandate) on a wave of support, amounting to 76.8% of the vote, which was quite without precedent (see the article by Albertazzi, Bonansigna and Zulianello in this special issue). Alongside president Zaia sat Manuela Lanzarin, who was the regional councillor with responsibility for health and was a translator by profession. The health portfolio had been assigned to Lanzarin only a few months before the outbreak of the pandemic and she did not have a very high media profile, being constantly placed in the shade by Zaia. The Director General of health and social welfare for the Veneto region was Domenico Mantoan, who was a physician and a health manager of considerable experience, having had several important national-level appointments including the presidency of Italian national pharmaceuticals agency.

The Veneto region quickly established a number of bodies with responsibility for managing the Coronavirus emergency. Already on 30 January – and therefore long before the first confirmed case of the virus was registered in the region – a regional task force was appointed, with 14 members (representing both the health department and the various agencies of the regional health service). On 21 February an emergency response unit (consisting of Zaia, two members of his executive and four regional departmental heads) was formally constituted. 13 March saw the establishment of a regional scientific committee consisting of 12 experts with a leading role being taken by prof. Andrea Crisanti, director of the department of molecular medicine of the University of Padova. Even though the subsequent months were marked by the occasional crossing of swords between Crisanti and Zaia, it was obvious that Crisanti had been highly influential in several of the strategic decisions made by the Veneto regional authorities.

In contrast with the case of Lombardy, Veneto seems to have benefitted from the broadly supported leadership provided by Zaia, who was flanked by a director general of proven experience. The Veneto strategy emerged from a mix of autonomous decisions taken by the regional executive and a number of intuitions expressed by the experts whose advice was sought. The structures put in place to deal with the crisis were activated very quickly. Constructed around the regional president and the most influential of the technical advisors (Crisanti), they were able, thanks to the numbers of people involved, to act with agility.

Lastly, we come to the case of Emilia-Romagna. Regional president was Stefano Bonaccini, who had been elected for the first time in 2014, before being re-elected for a second term at the end of January 2020, a few days before the region began to be affected by the pandemic. His authority reinforced by the recently expressed popular backing, Bonaccini was an administrator of considerable expertise, with a national-level profile having for long headed up the Conference of the regions and autonomous provinces.

When the first cases of Covid-19 appeared in the region, the councillor with responsibility for health was Raffaele Donini. He did not have any special experience in the field of health (having previously been the councillor with responsibility for transport during Bonaccini's first term as regional president). Donini officially took charge of the health portfolio on 28 February, but just four days later tested positive for Covid-19 and had to self-isolate. President Bonaccini immediately decided to recall the previous member of the regional executive with responsibility for health, Sergio Venturi, appointing him as a commissioner in overall charge of dealing with the Coronavirus emergency. Venturi, a physician by training, boasted a thorough understanding of the regional health system, having previously been a member of the regional executive for a five-year term and having for long been general manager of a number of local health units and public hospital trusts. Venturi would manage both the organisational and the media aspects of the region's response to the Coronavirus emergency up until the beginning of May.

The Emilia-Romagna region was quick to establish an emergency response unit, composed of nine members (including regional council managers, university professors and hospital consultants). The unit was formally established on 28 February 2020, ahead of the national directive, of 4 March, instructing the appointment of a similar coordinating body in every region. Within the unit, the leading role seems to have been taken by prof. Pierluigi Viale, director of the department of medicine and surgery of the University of Bologna, and head of the department of infectious diseases of the Sant'Orsola, the region's largest hospital.

As in Veneto, so too in Emilia-Romagna, the regional president was a man of widely acknowledged competence and capacities for leadership dating back to well before the start of the pandemic. Bonaccini drew on the support, throughout the Phase 1 period, of the previous regional executive member for health, Venturi, who was already familiar with the workings of the regional health service and was acquainted with all of the directors of the local health units and public hospital trusts. In support of the regional executive, a controlling body consisting of nine experts was established. The advice of these experts was taken extremely seriously and it contributed to timely adaptations of strategy in response to the virus.

Lombardy: a series of errors 'in conformity with the rules'

Codogno, in the province of Lodi, sadly hit the headlines as the site of the local hospital, which, during the night between 20 and 21 February, registered the first recorded case of an Italian patient infected by Covid-19. The accident and emergency department was soon closed; Codogno and a further ten municipalities of the Basso Lodigiano area were immediately isolated and declared to be a 'red zone', the decision being taken by the minister of health in consultation with regional president,

Fontana. Two days later, on 23 February, the Alzano Lombardo hospital too registered its first cases of patients testing positive for Covid-19. The accident and emergency department of the Alzano hospital was closed for a few hours and then re-opened, though without adequate measures of sanitation having been taken. No red zone was set up to contain the outbreak in the municipalities of Alzano Lombardo or Nembro, in the Valseriana area.

The reaction of the Lombard authorities to the initial cases of infection and the initial outbreaks was at first marked by a series of measures, which, with hindsight, turn out to have been mistaken. The series of mistakes made by the authorities was chronicled not only by the press (which was highly critical both of president Fontana and his fellow regional executive member, Gallera) but also by the regional federation of the Italian order of physicians. In a letter dated 5 April 2020 addressed to the regional authorities, the latter described the situation as ‘dramatic’, attributing it to ‘a series of errors made during the initial phase of the epidemic’³. We wish to emphasise that the errors, real or presumed, described from hereon in are labelled as such, not as the result of a personal judgement, but because they faithfully reflect the assertions made in the document published by the Lombard members of the order of physicians.

The first mistake was the failure to close in good time the Alzano Lombardo hospital and the delay in including the municipalities hit by the initial outbreaks, in the ‘red zone’.

A second mistake concerned the residential care homes. According to the above-mentioned letter, ‘the poor management of the situation in the homes [...] resulted in the spread of the virus and a sad loss of life as a result’. In the initial days of the virus’ spread, roughly fifteen of Lombardy’s care homes were asked to take on some of the less severe Covid-19 cases in order to free up hospital beds. This soon proved to be a boomerang, transforming the old-people’s residences into sites of infection.

A third mistake concerned the lack of supply of personal protective equipment to medical staff. The Lombardy region was unable quickly to supply health workers with such equipment and ‘this led to the death of numerous colleagues’ – the letter emphasises – ‘and to the involuntary spread of infection’.

A fourth strategic decision, which was revealed to have been mistaken by the benefit of hindsight, concerned the administration of Covid swabs. Especially during the initial weeks, swab testing was prescribed only for patients displaying the most serious symptoms who had been admitted to hospital. By contrast, health workers were not systematically tested – as a result of which many of them ended up spreading the virus in their turn. In general, neither patients who were not hospitalised, nor those who were suspected of having been in contact with an infected person were subject to testing.

A further gap in the measures put in place in Lombardy, according to the above-mentioned letter, concerned ‘the almost total absence of public health measures (the isolation of cases, contact tracing, etc.)’ and the ‘lack of community management’. In this regard, it should be noted that as far back as the Formigoni regional administration (Roberto Formigoni was president of the Lombardy region from 1995 to 2013), the organisational set up of the Lombardy regional health system had been unique in the national context (Mapelli 2007; Brenna 2011; Toth 2011). The Lombard health system had traditionally stood out in a number of ways including 1) the major role played by private suppliers (who competed with those of the public sector); 2) poorly integrated organisational structures; 3) the over-supply of hospital places and the corresponding under-supply of community medicine (Mapelli 2007; Mapelli 2012; Carboni and Toth 2013; Toth 2014). The lack of primary care and public health services became apparent with the attempts to deal with the first wave of the pandemic (Casula *et al.* 2020). Compared to regions such as Veneto and Emilia-Romagna, Lombardy found it more difficult to put in place effective test and trace measures.

The analysis outlined in the open letter of the Lombard physicians makes interesting reading in this respect: ‘The disastrous situation in which our region finds itself, even as compared to the situation in neighbouring regions, can in large part be attributed to the interpretation of the situation merely as an intensive care emergency, when in fact it was a public health emergency. Public health and GP services have for many years been neglected and downgraded in our region’. It is important to emphasise that the physicians’ letter recognises a problem of framing, of misinterpretation of the nature of the problem. The mistaken interpretation seems to have arisen from the institutional framework of the Lombard health system and from the long-term strategies pursued by the regional authorities.

What deserves highlighting is that the mistakes listed were to a large extent made without breaking any of the rules set out in the directives issued by the national-level authorities. On the contrary, there is reason to believe that some of the mistaken decisions of the Lombardy region derived precisely from an attempt to carry out instructions issued at the national level. This suggestion needs to be argued in greater detail.

The Lombard regional authorities were accused of having failed to place the municipalities of Nembro and Alzano Lombardo in the red zone. ‘The mistake is not one that can be blamed on me’, regional president Fontana subsequently declared. The Lombard regional executive maintains, in fact, that such a measure was the responsibility of the Government. ‘There is a legal interpretation by Sabino Cassese’ (Cassese is a well-known professor of administrative law and former judge of the Italian Constitutional Court) – Fontana continued – ‘according to which the initiative rests with

the Government, and such interpretation has been confirmed by the directive issued by the interior minister to the local prefects'.⁴

The Lombard authorities also maintained that they had acted correctly when it came to management of the Codogno and Alzano Lombardo hospitals. 'We' – declared regional executive member Gallera⁵ – 'have meticulously followed both the protocols set out by the Italian National Institute of Health and the ministerial guidelines'.

And with regard to management of the residential care homes, it must be said that unfortunately for the Lombard authorities a document issued by the National Institute of Health envisaged the possibility of using residential facilities for non-hospitalised patients and less acute cases (and therefore also residential facilities for the elderly) to host Covid-19 patients.

We come to the question of the supply of personal protective equipment, of ventilators, swabs and reagents. The regions were told that such supplies would be taken care of by the Civil Protection agency. Fontana remarked: 'Such supplies are solely the responsibility of the State. We have been asking for the safety equipment since the beginning, the Government has tried to obtain it but has been unsuccessful'⁶. The supplies furnished by the Civil Protection agency arrived late and in insufficient quantities. Unlike the other regions, Lombardy did not act autonomously to obtain alternative supplies and ended up paying the price for the delay surrounding national-levels efforts at procurement.

Finally, with regard to the swab tests too, between the end of February and the beginning of March, the Lombard authorities confined themselves to following national-level guidelines. The guidelines then issued by the WHO, by the National Institute of Health and by the ministry were clear⁷: since the facilities for analysing test results were limited, swabs were to be administered only to the severest cases, to patients with symptoms of acute respiratory infection. The Lombard authorities adhered to this instruction.

The Lombard authorities can at most, therefore, be accused of not having been proactive and having been unwilling to take the initiative in seeking to understand the situation. But there do not seem to be grounds for suggesting that the Lombard regional administration broke the rules. 'I wish' – Fontana publicly declared⁸ – 'that they would be specific about the mistakes I made. Unfortunately, we followed the protocols, all our decisions were made with the agreement of the National Institute of Health'.

However, the region's adherence to the protocols and the national guidelines does not entirely explain the mistakes made in Lombardy. The shortcomings of the regional administration in dealing with the first massive wave of infections can, rather, be attributed to a combination of factors including: the lack of relevant expertise among those (the regional president, the executive member

in charge of Welfare and the director general) at the top of the chain of command; an oversized emergency response unit and technical-scientific committee among whose members there failed to emerge a clear ‘advisor to the prince’ more influential than the others; a network of GP services that was less well developed and less well integrated than in other regions. The authorities’ awareness that they could rely on a network of hospitals of recognised excellence seems to have influenced their framing of the problem and thus the way they responded to the pandemic. All these factors, in combination, ended up limiting ‘sensemaking’ (Weick 1993; 1995) as well as the scope for a process of rapid, shared, learning.

Veneto: timely decisions and *bricolage*

We have suggested that many of the regions were unprepared to meet the challenges of the Coronavirus pandemic. Among them, the one that was best prepared to deal with the first wave of infections – at least according to the predominant media narratives – was Veneto.

Already on 20 January 2020 (a month before the first Italian case of infection came to light) prof. Crisanti ordered a supply of reagents sufficient to analyse at half a million swabs⁹. This was a far-sighted action inspired by a sense of prudence and the assumption that the virus would eventually reach Italy making necessary a large number of tests.

In managing the first outbreak, in Vo’ Euganeo, the Veneto regional administration was particularly effective. The exemplary way in which the Vo’ outbreak was managed soon made it a benchmark, leading it to be dubbed – not only in the Italian but in the international media as well (Starr 2020) – the ‘Veneto model’.

Over the subsequent months, the question of who was responsible for the model was the subject of fierce debate. On the one hand, Crisanti claimed that he was responsible for it. On the other hand, the Zaia executive pointed out that it had taken a number of the relevant decisions on its own initiative (advised by senior figures in the region’s prevention and public health directorate) before involving Crisanti in the management of the emergency. While not wishing to be drawn into this controversy, we think it plausible that the ‘Veneto model’ was the result of a combination of decisions taken by the Zaia executive of its own volition and good advice given by a small group of external experts (which certainly included Crisanti).

Vo’ Euganeo is a municipality of just over 3,000 residents in the province of Padova. It was from here that the first Italian to die of Covid-19 originated; his death took place in the Schiavonia hospital on 21 February. The Veneto regional executive reacted immediately. The Schiavonia hospital was promptly closed and evacuated. The Vo’ municipality was isolated and placed in lockdown for two weeks (Lavezzo *et al.* 2020). The Zaia executive decided that the entire population of Vo’ would

be tested in order to understand how many and which of its residents were Covid-19 positive. The population of Vo' was thus made subject to a first round of testing. It was then that Crisanti came upon the scene: the Veneto region in fact asked the University of Padova professor to analyse the data arising from the blanket test. In agreeing to the task, Crisanti in his turn proposed a 'second round' of tests to be undertaken around ten days after the first round (Lavezzo *et al.* 2020; Starr 2020). This second round enabled the University of Padova to acquire a unique data set making it possible to understand the dynamics of transmission of the virus.

It was with the analysis of the data gathered from Vo' that the position of Crisanti became central. Crisanti was in fact credited with a number of intuitions of enormous significance not only from a scientific but also from a practical point of view. What emerged from the tests undertaken in Vo' was that a large percentage of those testing positive were asymptomatic, with a viral load similar to that of people with symptoms, and therefore capable of passing on the virus (Lavezzo *et al.* 2020). 'It was there' – declared Crisanti – 'that the Veneto model was born'¹⁰. The latter was in fact based on the principle of 'test and trace' and on the search for the virus also among the asymptomatic. On the basis of this presupposition, on 17 March Crisanti proposed that the Veneto region adopt a policy of 'active surveillance'. The policy was approved by the Zaia executive. It required the establishment of laboratories for processing the tests and the active involvement of GPs' surgeries and the services of preventive medicine. In contrast to what happened in Lombardy, Veneto, in the years prior to the pandemic, had invested heavily in GPs' surgeries. The network of surgeries was therefore well prepared to make what was its indispensable contribution to the strategy of test and trace (Casula *et al.* 2020). At its time of need, Veneto was able to benefit from the fact that over the years it had consolidated its network of GP services and the services of preventive medicine.

Looking at the situation from the outside and taking one's cue from organisational psychology, one could describe Crisanti as a *bricoleur* (Levi Strauss 1962; Harper 1987). A *bricoleur* is one who uses the components and elements of understanding already available to him and rearranges them in extemporaneous and innovative ways, making use of them in ways that are least partially different to those for which they had originally been conceived (Weick 1993; Lanzara 1998; Campbell 2005; Carstensen 2011).

A number of elements of Crisanti's biography support this suggestion. Having for many years studied the efforts to combat malaria in Africa, Crisanti was well aware of the importance of contact tracing and of seeking out the virus from 'house to house'. He was also aware that asymptomatic transmission was a feature of a large number of contagious diseases (Starr 2020). His previous experience, extending over a period of more than twenty years, of working in the laboratories of Imperial College, London, had given him familiarity with open-circuit machines and the autonomous

production of reagents. In short, what Crisanti did was to apply the knowledge he had acquired studying other infectious diseases to the case of Covid-19.

From the beginning of March, Veneto stood out from all the other regions for its capacity to carry out large numbers of tests. Throughout Phase 1, the region's capacity to process tests was almost twice that of the other most severely affected regions of the centre and the north (ALTEMS 2020). This greater capacity was due to a number of far-sighted decisions taken before the pandemic began and to a number of timely decision taken during the initial days of the emergency.

The principal far-sighted decision was to provide the main laboratory of the Veneto health-care system (a laboratory based in Padova and directed by Crisanti) with open-circuit machines. These machines make it possible to use generic reagents without being tied to the specific reagents provided by individual producers. When, in the month of March 2020, there developed a shortage of reagents on the international markets, it became apparent that the decision to rely on open-circuit machines was a considerable advantage.

Added to this, were a number of timely decisions made by Crisanti and the directors of the Padova hospital trust. Already at the end of February, the latter had obtained a large supply of reagents, sufficient to process several million tests. 'At the end of February' – explained the director general of the hospital trust – 'it was rumoured that there would be a shortage of reagents. We ordered enough to keep us going for two years'¹¹. The hospital trust stood out for a further timely investment, namely, the purchase of a laboratory pipettor, making it possible to quadruple the number of tests analysed (Starr 2020). This equipment was ordered from a California-based firm on 23 March and delivered within a few days¹². Within a short space of time supplies of the equipment ran out.

As we have already emphasised, throughout Phase 1, Veneto's capacity to analyse tests was much above that of any other region. This made it possible for Veneto to adopt a strategy for the administering of tests that was different from those of the remaining regions. While the other most severely hit regions were obliged to ration the tests (reserving them for patients with the severest symptoms), Veneto was able to test many more people including those who were asymptomatic. This obviously made it easier to trace those who had been infected.

It was apparent that the strategy of testing the asymptomatic as well as those with symptoms clashed with the initial advice given by the National Institute of Health and by the Government. Veneto did not adhere to this advice. Its strategy (which subsequently proved to have been farsighted) was as a result heavily criticised to begin with – both by Government spokespersons and by experts advising the other regions¹³. Crisanti summed up the moral of the story as follows: 'I tested the asymptomatic when this was not allowed. I broke the rules concerning testing and it was as well that I did. Had I stuck with the herd, Veneto would have ended up in the same position as Lombardy'¹⁴.

Emilia-Romagna: strategic changes and rapid learning

The first case of Coronavirus in Emilia-Romagna was registered at the Piacenza hospital on 22 February. According to the testimony of a large number of health professionals working on the front line during Phase 1, during the initial weeks of March the response of the health services in Emilia-Romagna did not differ much from those of Lombardy in that it reflected an attitude of ‘wait-and-see’ and focussed on hospitalisation.

It should be emphasised that the authorities in Emilia-Romagna never attempted the complete closure of any hospitals either in the initial weeks of the emergency or thereafter. Hospitals in the region always remained open. During the initial phases of crisis management this can – with the benefit of hindsight – be considered to have been a false move: ‘in some cases – the commissioner Venturi admitted – ‘hospitals became a source of contagion’ (Venturi 2020). In order to avoid this happening, from the initial days of crisis management pre-triage receiving stations were set up in grounds of the region’s public hospitals. These were large tents erected outside the accident and emergency departments where medical staff were required to separate patients without symptoms of Covid-19 from those with respiratory symptoms. The pre-triage tents were clearly intended to avoid the hospitals becoming themselves sources of infection.

As already implied, during the first three or four weeks of the emergency, the response of the authorities in Emilia-Romagna was very similar to that of the authorities in Lombardy. From the last week of March, however, in Emilia-Romagna a noteworthy change took place. Echoing the words of regional president Bonaccini, we can say that the region shifted from a ‘defensive’ stance whereby the reaction focussed on treating patients in hospital, to a more proactive one involving the search for cases of infection in the community¹⁵. ‘We asked ourselves a number of questions’ – recalls prof. Viale – ‘and changed direction. We were seeing a number of patients who were desperately ill. We understood that we should have reached them sooner. We abandoned the strategy of waiting, in favour of one of ‘early catching’’¹⁶. The watchword thus became, ‘Let us seek out the infected at home’¹⁷. This strategy required the crucial collaboration of the family doctors and the health services on the ground. And so it was that GPs, the services of preventive medicine of the local health agencies (Aziende sanitari locali, Asl) and the recently established Unità speciali di continuità assistenziali (literally: ‘Special care continuity units’, Usca)¹⁸ were given the task of carrying out real-time monitoring of actual and suspected cases, thereby acting as a filter. The intention was to confine suspected cases to their homes as much as possible and to admit to hospital only the severest cases.

As in Veneto, so too in Emilia-Romagna, the network of services on the ground was able to rise to the challenge, promptly changing tack in accordance with the decisions of the regional authorities. Indeed, it must be stressed that the health services of both Emilia-Romagna and Veneto reflected an organisational approach which, in several respects, was the opposite of the one informing the services in Lombardy. While those in Lombardy revolved around the hospitals (and public-private competition), the systems in Veneto and Emilia-Romagna reflected the greater investment that had been made in community medicine, in public planning and in service integration (Mapelli 2007; Carboni and Toth 2013; Toth 2014; Casula *et al.* 2020).

Let us turn to the testing strategy. During the last week of February, the number of tests carried out in Emilia-Romagna was considerable (especially when compared to the number of positively identified cases, which at that stage remained small). Initially, tests were administered not only to those with symptoms but also to the asymptomatic known to have been in contact with people with Covid-19. However, from 27 February, the regional authorities decided to change tack and to conform to the national guidelines, which prescribed testing only for those with obvious symptoms¹⁹. This was of no small consequence: Emilia-Romagna had initially adopted an approach similar to that of Veneto (one that was subsequently revealed to have been appropriate) only to abandon it to conform to government guidelines (which were subsequently revealed to have been inappropriate).

Moreover, in the first two weeks of March, Emilia-Romagna found itself in the same situation as that of most other regions, facing shortages of swabs and reagents and therefore unable to undertake large numbers of tests. In these circumstances, the authorities were obliged to decide upon a criterion of rationing of the tests (which, as a general rule, were therefore administered only to patients with the most serious symptoms). As time passed the number of tests the laboratories in Emilia-Romagna could process went up. This was due to an expansion in the size of the network of laboratories called upon to perform this task and to the initiative of the regional authorities in procuring supplies without waiting for the Government.

By mid-March, the region's testing capacities were already much improved. This facilitated a change of strategy, publicly announced by Bonaccini with the words, 'We shall do much more testing'²⁰. The change of tack involved the periodic testing of all health workers, the testing of the asymptomatic as well as of those with symptoms, the carrying out of blanket testing in areas where there had been outbreaks. In short, once a larger number of swabs had become available, the authorities decided to adopt the Veneto model.

Around the middle of March, Emilia-Romagna became the first region to adopt 'drive-through' testing²¹. Taking its lead from the South Korean experience, the system meant that

individuals could have the test without getting out of their cars, which in turn made the testing itself quicker and more secure. This mode of testing was subsequently adopted by other regions.

As previously implied, supplies of all the equipment necessary for dealing with the pandemic (from face masks to overalls, shoe-coverings, caps, reagents, swabs and ventilators) was supposed to have come from the Government. ‘With the benefit of hindsight’ – commissioner Venturi (2020) noted – ‘I believe it fortunate that some directors general secured their own supplies of face masks and other equipment. Had we waited for the national authorities to supply these things...’. Once it had become apparent that the Civil Protection agency would be unable to provide the most severely hit regions with the indispensable minimum in a timely fashion, Emilia-Romagna decided to take its own initiatives. With regard to the supply of both face masks and reagents, the regional executive made use of its privileged access to a number of large local firms (including Ducati, Ferrari and Macron), their commercial contacts and their globally dispersed subsidiaries (Venturi 2020). Thereby it was able to procure additions to the supplies provided by the national authorities and, what was most important, to procure them much more rapidly.

In short, Emilia-Romagna stood out for its capacity to learn quickly (Weber and Antal 2003), drawing on its initial mistakes, proceeding by trial and error, emulating strategies adopted elsewhere, developing novel approaches at the local level. After a few weeks, the approach was revised and improved. Locally devised approaches were extended to the region as a whole. The Emilia-Romagna health service suffered major lacunae at the outset of the emergency but showed that it was quickly able to correct its initial mistakes.

How to deal with an emergency: mistakes, and the lessons learned from them

The three cases described above suggest some general conclusions about how to deal with emergencies: about what to do, and what not to do, when dealing with a *vu jà dé*.

The first conclusion – which we dwell on less than the others owing to the fact that it is rather obvious – concerns leadership. When one is caught in a storm, the qualities of the person at the helm make a big difference. More than ever in crisis situations, a leader must inspire confidence, appear competent, evoke courage; s/he must be capable of making timely and unpopular decisions; s/he must surround him- or herself with advisors of the highest quality. It is not my intention here to make a judgement about who, among Zaia, Fontana and Bonaccini, was the best leader. That is not the point, for it is possible to be a good leader in a number of different ways. The events described seem to confirm, nevertheless that when situations of crisis arise, it is essential to be able to count on solid leadership both of an expressive and technical-instrumental kind (Etzioni 1965).

Besides leadership capacities, the events described highlight the importance of organisational structures: it is important to consider both the pre-existing designs of the individual regional health systems and the ad hoc arrangements put in place to deal with the emergency.

Let us begin with the organisational arrangements that pre-dated the onset of the pandemic: these obviously affected responses to the initial wave of infections (Casula *et al.* 2020). Lombardy had long pursued a strategy based on the excellence of its hospitals, placing less emphasis on community medicine and the integration of services. In contrast, Emilia-Romagna and Veneto had in the preceding two decades invested a great deal in primary care and in integrating hospital and GP services. These contrasting strategies, deeply rooted and internalised within the regions' health care systems, seem also to have influenced the way the problem was framed. Lombardy, thanks to the centrality of hospitals in its approach, interpreted the pandemic as an 'intensive care emergency': it therefore concentrated on assisting the most acute cases in need of hospitalisation and intensive care. In Veneto and Emilia-Romagna, in contrast, the interpretation was at least partially different: the Coronavirus was also – and perhaps especially – seen as a challenge to be taken up in the community, from house to house, through measures of contact tracing and prevention. This second interpretation was, it seems plausible to suggest, facilitated by the greater investment these regions had made over the years in preventive and community medicine.

Besides the pre-existing organisational arrangements, consolidated over time, a not-less-important factor was the nature of the 'war rooms', the emergency structures, established by the regional authorities to deal with the pandemic. Such structures included the emergency response units, the task forces and the various technical and scientific committees. We have already seen that some regions established, sometimes belatedly, bodies that were overly large, making it difficult for them to interact with other actors and to make rapid decisions. Other regions in contrast established more agile emergency response units, ones involving the participation of the key actors only.

A third conclusion, which undoubtedly merits further reflection, concerns the observance or the failure to observe the norms and guidelines issued at national level. As Diane Vaughan (1996) argues, organisations often end up making mistakes not because their individual members break the rules, but on the contrary precisely because they adhere – uncritically – to organisational norms and practices. Mistakes can sometimes give rise to full-blown organisational disasters brought about 'in accordance with the rules'. In such cases, organisations make mistakes not because individuals – for reasons of opportunism, malice or negligence – break rules or disobey orders, but rather because of their organisational arrangements, their internal norms and practices, which end up creating organisational short sightedness (Catino 2013).

Something similar seems to have happened in the case of Lombardy. Many of its mistakes were made because it adhered, in an uncritical fashion, to the guidelines, relying excessively on the instructions issued by the Government. The attitude adopted by the Veneto authorities was different: some of the choices made by the regional executive and suggested by Crisanti openly challenged the national-level guidelines and instructions; and yet, *ex post*, they have been shown to have been correct. Emilia-Romagna too, after initial hesitancy, decided to disregard some of the guidelines set out by the Government, preferring to emulate the strategy adopted by Veneto for administering the tests and not waiting for the supplies promised by the Civil Protection agency.

Emilia-Romagna and still more Veneto therefore displayed what Weick has called an attitude of wisdom (Weick 1993). Wisdom, in this sense, consists of a particular capacity for discernment involving a refusal to give excessive weight to information and directives coming from above or from sources considered to be authoritative, in recognition of the fact that they could be mistaken. Likewise, it involves a refusal to dismiss out of hand information and suggestions that might at first sight seem unorthodox or bizarre, in recognition of the fact that they may sometimes contain precious insights. Even when they are under pressure, argues Weick, individuals must not relinquish attitudes of discernment, or fail to think, critically, for themselves. They must always be ready to concede the benefit of the doubt and to receive information and instructions *cum grano salis*. Following rules and instructions in a slavish fashion is rarely a recipe for success in managing novel challenges. The virtues of wisdom seem to be linked in some ways to leadership abilities: swimming against the tide and challenging the rules often requires courage, independence of judgement, and authority.

The three cases discussed suggest a further quality, which seems to have been common to the health systems that reacted best to the emergency: the capacity to combine the available elements of understanding, to process them quickly and to put them into practice. In the case of Veneto, we have used the term *bricolage*, in the case of Emilia-Romagna, rapid learning. Both cases confirmed that responses can be generated at various levels of the system including the most peripheral. It is up to those in authority to take on board the ideas coming to them from below, to select the best of them and to apply them to the system as a whole.

As explained at the outset, this article has focussed exclusively on what was officially referred to as Phase 1 of the response to the pandemic. As is well known, after a summer of relative lull, the curve of infections began once again to turn upwards. The final months of 2020 were therefore marked by a 'second wave', which, if only in terms of the number of deaths, turned out to be more lethal than the first.

From the perspective of crisis management, the first and second waves presented very different challenges. The first wave was – as we have already mentioned – a case of *jamais vu*, an

unexpected and in many respects an unpredictable event. It caught everyone unawares. For this reason, the interpretation provided in this article has drawn on the strand of the literature that deals with unexpected disasters and the initial phases of crisis management (involving recognition of the initial signs of alarm, sense making, the adoption of the initial counter-measures, the development of a credible interpretation of the situation and its external communication). The second wave, in contrast, was widely foreseen, and was in many respects a case of *déjà vu*: many of the problems that presented themselves in the autumn had already been experienced in the spring. In September, in fact, the virus was no longer an unknown from a clinical point of view. Governments and health systems had had sufficient time to reorganise themselves. A second wave had not only been predicted by many, but it was also, perhaps, avoidable, at least to a large extent (Ricolfi 2021).

Consequently, to make sense of the second wave, and to understand the long-term impact of the Covid-19 crisis on the Italian health service, it will be necessary to deploy interpretations and analytic frameworks other than those used in the writing of this article.

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¹ These three regions, together, account for 32% of the Italian population. As of 26 April 2020, the three combined accounted for 58% of the confirmed cases of Covid-19 in Italy and 68% of the Covid-related deaths. Cfr. Ministry of Health data, 'Covid-19 Situazione in Italia', available at <http://www.salute.gov.it/portale/nuovocoronavirus/dettaglioContenutiNuovoCoronavirus.jsp?area=nuovoCoronavirus&id=5351&lingua=italiano&menu=vuoto>.

² 'Zaia e Bonaccini i governatori più apprezzati, sondaggio', www.ansa.it, 30 November 2019.

³ See the web site of the Federazione nazionale degli ordini dei medici chirurghi e degli odontoiatri Lombardia (National federation of doctors' surgeons' and dentists' associations, Lombard branch, Fnomceo), 'Lettera indirizzata ai vertici della sanità lombarda', available at <https://portale.fnomceo.it>

⁴ P. Colaprico, 'Fontana: «Non abbiamo fatto errori e tenerci chiusi non sarà necessario»', *la Repubblica*, 22 May 2020.

⁵ See 'Coronavirus, Conte: «Un focolaio si è diffuso perché un ospedale non ha seguito i protocolli»', available at <https://www.rainews.it>, 25 February 2020.

⁶ See 'Fontana «Regione Lombardia non ha fatto errori»', www.adnkronos.com, 23 May 2020.

⁷ See: Consiglio superiore di sanità (Italian National Institute of Health), 'Documento relativo ai criteri per sottoporre soggetti clinicamente asintomatici alla ricerca d'infezione da SARS-CoV-2 attraverso tampone rino-faringeo e test diagnostico', 26 February 2020; Ministry of Health, 'Covid-19. Aggiornamento della definizione di caso', 9 March 2020.

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¹² 'Come ha fatto il Veneto', cit.

¹³ M. De Bac, 'Coronavirus in Italia, Ricciardi: «Uso sbagliato dei tamponi. Possibile che i casi positivi siano stati sovrastimati»', *Corriere della Sera*, 27 February 2020.

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¹⁵ ‘Bonaccini: «L’Emilia-Romagna sta reggendo, ma ora nuova fase di contrasto al coronavirus»’, *la Repubblica*, 27 March 2020.

¹⁶ Prof. Pierluigi Viale, speech given to a session of the ‘Corso di formazione manageriale per dirigenti di struttura complessa dell’Azienda ospedaliero-Universitaria di Bologna’, 29 October 2020.

¹⁷ ‘Coronavirus, l’infettivologo Viale: «Andiamo a prendere i malati a casa per scovare chi ha il Covid19»’, *il Messaggero*, 14 April 2020.

¹⁸ As part of efforts to deal with the pandemic, the regions were asked to establish the Unità speciali di continuità assistenziale (Usca), in order to provide home care for Covid-19 patients who had not been admitted to hospital.

¹⁹ See ‘Coronavirus, gli aggiornamenti della Regione Emilia-Romagna’, available at www.ausl.bologna.it/news/archivio-2020/auslnews.2020-02-23.7803066666

²⁰ ‘Coronavirus in Emilia-Romagna: 4.000 casi (+478) e altri 50 morti. Bonaccini: «Faremo molti più tamponi»’, *la Repubblica*, 17 March 2020.

²¹ See ‘Coronavirus, gli aggiornamenti della Regione Emilia-Romagna’, available at www.ausl.bologna.it/news/archivio-2020/auslnews.2020-03-18.0891027937