



The Story of the plague in the Maritime Republic of Genoa (Italy) (1656-1657): An innovative public health system and an efficacious method of territorial health organization

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Summary

Introduction. With the recent COVID-19 pandemic, the terms quarantine, contagion and infection have again become part of our everyday speech, prompting historians to reflect on the settings in which they were originally used and to make comparisons with the present time. How did people cope with epidemics in the past? What measures were taken?

Objectives. Here, we analyse the institutional response of the Republic of Genoa to a calamity that shook the city – the plague of 1656-1657. In doing so, we focus particularly on the public health measures implemented, as recorded also in unpublished and archival documents.

Discussion. In order to tighten control over the population, Genoa was divided into 20 zones, each of which was placed under the authority of a Commissioner endowed with criminal jurisdiction. The Commissioners' duties concerned the spheres of public

health, public order and those tasks which today we would assign to “civil protection”. Through the official documentation and the trial records kept by the Chancellor of one of these zones, we can shed light on the Commissioners' everyday activities and assess the impact of the public health measures on the population.

Conclusions. The 17th century plague in Genoa provides us with an important testimony of a well-organised and structured public health policy – an institutional response involving the adoption of efficacious measures of safety and prevention in the field of hygiene and public health. From the historical-social, normative and public health perspectives, this meaningful experience highlights the organisation of a large port city, which was at the time a flourishing commercial and financial hub.

Introduction

The epidemic of bubonic plague that struck Genoa and its domain between May 1656 and August 1657 has gone down in history as the most fierce and devastating calamity to strike the territory of the Republic of Genoa during the modern age.

“To preserve and to rid the city of the plague” (Fig. 1) Its severity is revealed by copious historiography, which, right from the beginning of the epidemic, dealt with the characteristics of the disease and the means utilised to curb its spread. In addition to the testimony of those who played an active role in the fight against the plague, such as the Augustinian friar Antero da San Bonaventura [1], Chaplain of the Consolazione plague hospital, and the Capuchin friar Maurizio da Tolone (a so-called “perfumer”) [2], we have the accounts collected by the notary Giovanni Bartolomeo Campasso, Chancellor to the Health Magistrate in 1669 [3].

The plague in Genoa: a “Mediterranean plague”

The Republic of Genoa, which had been spared (and

therefore not immunised) by the 1630-1633 series of epidemics recalled by Manzoni, was one of the four Italian theatres, together with Sardinia, the Papal State and the Kingdom of Naples, of what Bruno Anatra described as “a Mediterranean plague” [4]. The epidemic broke out in 1647 on the African coast, from where it spread first to Andalusia and then to Catalonia. It was subsequently carried by an infected ship from the port of Barcelona, reaching Sardinia in 1652. In Sardinia, the disease struck in two waves:

- the first wave (1652-1653) involved the northern part of the island and carried a mortality rate of over 55%;
 - the second wave (1654-1657) involved the central and southern parts, from where it spread to mainland Italy.
- Between April and May 1656, the plague reached Naples, followed by Rome and finally Genoa. The pattern of its spread was always the same; the disease first appeared in the vicinity of a port (in Rome, the cities of Civitavecchia and Nettuno) and then spread like wildfire throughout the rest of the territory, following trade routes and the pathways of flight from the cities to the countryside. Mortality rates varied enormously according to the geographical area affected, ranging from a minimum of 7.8% in Rome to horrendous levels in Naples and Genoa, where more than half of the population perished [5].

Fig. 1. Canvas of Domenico Fiasella (1589-1669) entitled: "The story of the plague in Genoa, Italy, (1656-1657)"*



*(Archivio Fotografico Fondazione Franzoni onlus- Genova)

This disparity, however, did not stem from a lack of attention or preparation on the part of those responsible for tackling the emergency, as is well demonstrated by the case of the Republic of Genoa, the only one of the four above-mentioned states that had had a permanent and well-organised body dedicated to public health since the first half of the 16th century. Indeed, as Giovanni Assereto pointed out, the plague did not catch the city off its guard; the public health system, which had already been tested by the 1648-1650 epidemic of exanthematous typhus, was activated as soon as the plague manifested itself in Sardinia. Nevertheless, the attempt to cordon off the city, to impose quarantine and to ban the importation of goods coming from infected areas did not meet with success, and in May 1656, the disease reached Genoa's neighbouring villages in the Bisagno Captaincy [6].

According to some sources, the plague had been brought in by a few sailors arriving from Sardinia, who, having come ashore at Sturla, had sold "certain infected stuff" without respecting the hygiene regulations issued by the Magistrate [7]. According to others, the disease had been brought into the "marinas of Albaro" by Neapolitan refugees [8]. Whatever its vector was, however, the plague raged in the area and, despite efforts to protect Genoa (the capital), penetrated within the city's walls in July of the same year. The trend in contagion, which was initially fairly constant, displayed a downturn during the winter months; subsequently, however, it rose again, reaching its peak of morbidity and mortality as the weather warmed up in 1657, reflecting the life-cycle of fleas [8].

Public health measures and the role of the "Health Magistrate": hygiene regulations and sanctions

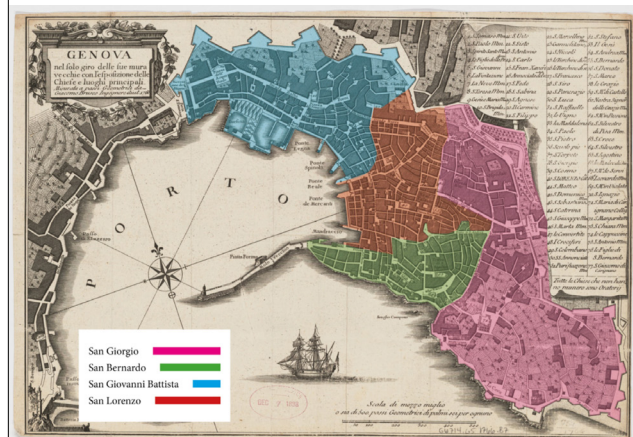
The measures implemented by the Health Magistrate roughly retraced the model that had already been tried and tested during the plague of 1579: public health officers were deployed to guard the coasts; the city gates

were garrisoned, and a network of secondary hospitals was created to relieve the pressure on the Lazaretto at the Foce [6]. Paradoxically, the place where these measures differed most markedly from the previous intervention was the city of Genoa itself, which was divided into smaller districts in order to facilitate the application of the public health measures. In September 1656, the city authorities identified four areas (Fig. 2) inside the ancient walls; named after the patron saints of the city (St Laurence, St George, St John the Baptist and St Bernard), each of these areas was subdivided into five zones, denominated by the letters A to E [9]. Administration of these zones was entrusted to "Commissioners", who were randomly selected from among all the patricians aged between 25 and 70 years, excluding those already engaged as health officers in the coastal areas.

The Commissioners of the zones were called upon to enforce the regulations of the Health Magistrate and to maintain public order. However, they also had duties in the sphere of public health and assistance [3]. For instance, they were to ensure cleanliness of the streets, supervise the burning of infected material, coordinate health personnel, seal warehouses containing precious goods in order to avoid their contamination, and authorise all movement of persons and things within their zone. In particular, they had to make sure that the physician and surgeon assigned to the zone did not leave it, even during the night, and to check that the procedures of quarantine and conveyance to the plague hospitals were meticulously implemented. Anyone who did not obey the Commissioner's orders was liable to be imprisoned or sentenced to serve as a galley slave, at the discretion of the Commissioner himself.

In order to carry out his duties, each Commissioner was assisted by a Chancellor and 6-8 "*Capistrada*" (neighbourhood watchmen), who were appointed at the moment of the Commissioner's election [3]. These latter constituted the Commissioner's network of informers and executors on the ground; they verified the proper functioning of "sewers and wash-houses", visited people in quarantine, and distributed bread and alms to the poorest. Their principal task, however, was to carry out a

Fig. 2 Division of the city of Genoa into areas.



census of the population living in the streets under their jurisdiction and to record, for each house:

- the surname and first name of the master [...]; whether he had a wife; how many sons and daughters he had and the age of each one; and, if the family kept servants, how many of each sex [...]. Regarding persons of inferior condition, the quality of the house was to be recorded (*i.e.* whether it had its own entrance), and, if such persons worked for a living, *whether on a large or small scale*) [3].

In the case of strangers, it was to be ascertained how long they had been in Genoa and whether they were vagabonds. The “*Magistrato di consegna*”, who was responsible for checking on outsiders, was to facilitate this operation by not permitting “strangers, vagabonds, ne’er-do-wells and scroungers to remain in the city” [3]. This diffidence towards marginalised individuals stemmed from the ambivalent nature of the pauper, who was regarded both as an image of Christ and as a public health risk. Indeed, the conviction that the plague was caused by corrupted air aroused suspicion that the disease might be spread by poor individuals, who were typically dirty [13]. Thus, during the 1656 plague, the Magistrate for the poor suspended the Sunday distribution of “charity” bread in order to avoid dangerous gatherings of paupers, and the Commissioners took over the task of distributing alms door-to-door [3]. At the same time, the neighbourhood watchmen were called upon to report those who lived in hovels or makeshift accommodation, so that the Magistrate could find adequate housing for them. As pointed out by Maria Francesca Raggi in a letter, a good proportion of the lower orders lived “*in houses of 10 or 12 families, where the plague was to be found even in healthy periods, owing to the filth and infected air therein*” [8].

To study the social impact of the measures implemented, we consulted the deeds of the notary Giovanni Battista Lavagnino, Chancellor to Felice Spinola, the Commissioner of zone D of the St Laurence district. This documentation enabled us to investigate the everyday activities of the Commissioner and to sample the difficulties encountered in applying the public health provisions regarding the burning of infected materials and the limitation of the movement of inhabitants. Silk, velvet and leather were considered to be particularly dangerous, as the particles of contagion could easily adhere to these materials and remain active for years. According to one coeval source: *Such materials, albeit not easily receiving contagion, conserve it for two or more years, as it is closed within and forms over time, becoming more active and efficacious than it was at the beginning. Merely by using an infected cotton cloth that covered a diamond, many people have died, and also after opening a trunk full of infected garments* [11].

The only way to get rid of the danger was to burn any goods that had been in contact with plague victims, regardless of their financial value. To prevent this potential loss of property, several patricians and merchants asked the Commissioner to seal rooms in their houses and warehouses where they kept precious furnishings, unsold

goods and semi-finished raw materials. Dealers in silk and wool regarded this freezing of their activities as a necessary evil that could save them from the much greater loss of having all their material burnt. At the moment when the room was sealed, the Chancellor drew up a deed describing the room, its contents and the paper seal, in order to be able to check that it was not broken too soon. Most people, however, could not afford to avail themselves of these procedures and, heedless of the risks involved, appropriated furniture and materials that had belonged to plague victims and hid them from the neighbourhood watchmen. Giovanni Battista Lavagnino’s papers include about 20 accusations, excerpts from trials and witness accounts that testify to this type of fraud and misappropriation. Sometimes, penal proceedings were initiated after a case of plague and the reconstruction of the network of contacts of the deceased. For instance:

- the death of Bastiana, a washerwoman from Bastia, helped to unmask a ring of smugglers of “*pepper, cloves... and Barbary wool*” run by Corsican soldiers billeted at the plague hospital at the Foce, together with compatriots of theirs who washed clothes in the river Bisagno [12];
- in the case of the trial of Faustina Giannina, who was accused of keeping on her balcony a trunk of clothes that had belonged to her daughter and son-in-law, both of whom had died of the plague, it was one of the woman’s neighbours who reported the fact [13].

The information network of the local Commissioners and their neighbourhood watchmen was supported by part of the citizenry, alarmed by the high mortality of the epidemic and its economic consequences. The population was particularly sensitive to the issue of adherence to quarantine, so much so that accusations were made which subsequently proved unfounded:

- on 3 October, Cesare Corte, “*prompted by the interest of the public good [...] reported seeing a boy come out of the Torre Tavern situated in Sosilia and then go back in through the same door after buying a little tobacco from a spicer who was standing in the vicinity of the said tavern*” [14]. The tavern had been placed under quarantine a few days earlier, but, according to Corte, the boy had gone in and come out through a small aperture in the façade of the building. Although the report had been made “*quite late*” in the evening, the Commissioner ordered that “*due information*” should immediately be gathered by the neighbourhood watchman and the notary; the boy, who was blind in one eye, was immediately identified, and both he and the spicer were interrogated. The boy swore that the tobacco and the money (soaked in vinegar) had only been passed under the door of the tavern. Unconvinced, the investigators insisted on testing whether it was physically possible for the boy to enter the tavern by passing through the aperture. After ascertaining that, “*having made the said boy lie on the ground and having tried to push him through the aperture*”, it was not possible for the boy to get in that way, even “*by pushing him hard*”, his questioners accepted the hapless lad’s version;

- equally unfounded was the allegation made in an anonymous letter sent to Francesco Invrea, the Commissioner of zone E of the St George district, in February 1657. The writer claimed that the baker's assistant Bernardo Musso had the plague [...]. After investigation by the neighbourhood watchman and medical examinations by the physician and the surgeon, the Commissioner was obliged to admit that the report was groundless.

The Genoese plague hospitals: structure, organisation and location

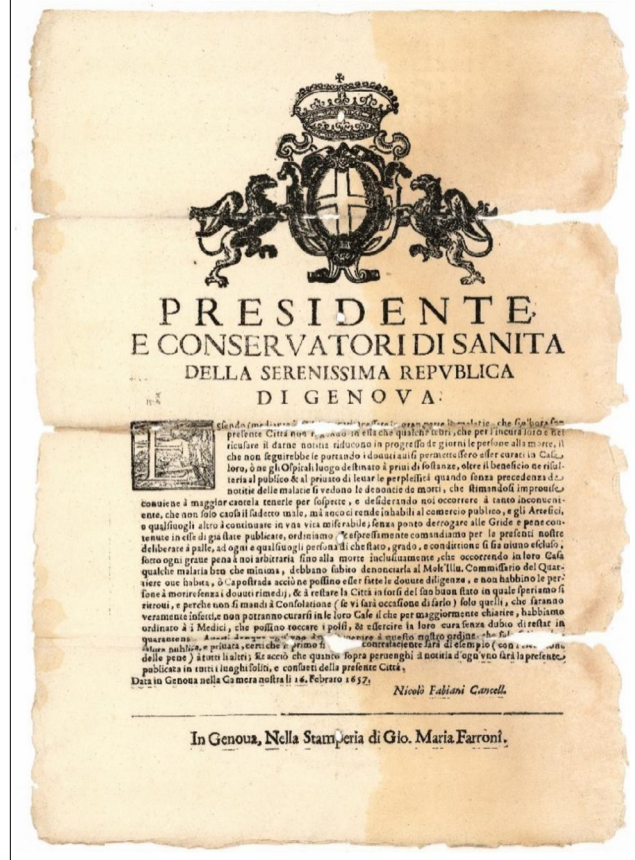
Unfortunately, analysis of the available sources does not enable us to determine whether the accusations made were prompted by mass hysteria or by a desire for personal vendetta. Nevertheless, what emerges is that the system was efficient, well-tested and generally appreciated by the citizenry. Only a few anonymous denunciations of the woeful state of the plague hospitals and of the abuses perpetrated by the neighbourhood watchmen in some zones testify to a more variegated picture.

Some of the patricians openly opposed conveyance to the plague hospital at the Foce, as this facility did not ensure a treatment worthy of their social class; indeed, nobles were obliged to share the same spaces with members of the lower orders. Moreover, numerous informers pointed to the scant efficacy of the therapy offered, and even claimed that transferring a sick person to the plague hospital at the Foce was tantamount to issuing a death sentence (Fig. 3). Likewise, the Consolazione plague hospital was dubbed by the author of one missive as the “Desolation Hospital”, as it was “infected” and its beds were “diseased and plague-ridden” [15].

In addition, corpse-gatherers and neighbourhood watchmen were accused of exploiting their position in order to commit theft and perpetrate violence. Indeed, surveying the population, questioning people and assisting the sick gave them the opportunity to examine the premises and to spot the most attractive objects to steal. Moreover, when a new Commissioner was appointed in zone E of the St George district in 1657, the previous neighbourhood watchmen were accused of stealing bread and arms intended for the poor and of taking bribes in order to close one eye to quarantine violations. Some of these abuses were reported shortly after they had been perpetrated, while others came to the attention of the Health Magistrate only in 1658, when the epidemic was over.

Despite these distortions, the end of the plague did not mark the end of the city's subdivision into districts; on the contrary, this scheme was adopted several times during the course of the 17th century, in order to carry out censuses of the population and other operations, such as the assignment of street numbers to buildings and the maintenance of public lighting [16]. Indeed, the dense information network utilised by the Commissioners proved to be a perfect means of controlling the territory and implementing measures aimed at safeguarding the citizenry.

Fig. 3. State archive of Genoa, Health Office n. 1881 (Archivio di Stato di Genova, Ufficio di Sanità, N. 1881).



Conclusions

The experience of the plague in Genoa in the 17th century once again testifies to the importance of adopting measures of safety and prevention in the field of hygiene and public health [17, 18]. This testimony is interesting from both the historical-social and public health standpoints, in that it dates back to a period in which public health legislation was not particularly advanced and the population was often scantily informed of the regulations to be respected and the measures to be implemented [19].

Indeed, in terms of hygiene, people's behaviours and habits, not only at that time but also even later, left much to be desired and were certainly not sufficient to ensure proper compliance with the principal rules of public health [20, 21].

This was the case even in “uneventful” conditions, and all the more so when such aggressive, devastating and, above all, rapid events occurred, as in the case described above. And yet, albeit with due caution and considering the standards of large cities in the middle of the 17th century, we can claim that Genoa was well organised from the public health standpoint; its planning was innovative and its set of dedicated norms and system of sanctions proved to be fairly efficacious. In order to curb the diffusion of the plague, the city was subdivided into restricted areas,

which were placed under the control, management and organisation of local Commissioners.

This helped to limit the further spread of contagion, providing greater equilibrium and more efficient organisation. This approach gained the approval of the citizenry, so much so that, once the emergency was over, the subdivision of the city into districts was maintained, being adopted for various purposes on other occasions during the course of the 17th century [20]. Indeed, it was an efficient structure that utilised a robust information network in order to control the territory and to implement measures aimed at protecting the city and its inhabitants.

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Conflict of interest statement

The authors declare no conflict of interest.

Author's contribution

FF and MM designed the study, conceived and drafted the manuscript; PC, FB and MM revised the manuscript, FF performed a search of the literature. All authors critically revised the manuscript. All authors have read and approved the latest version of the paper for publication.

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