

Public Health History Corner

From a Pope's nightmare, a great public health institution: the Santo Spirito in Saxia Hospital, in Rome

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Santo Spirito in Saxia Hospital and Church.
Giuseppe Vasi (1756)

Sometimes even bad dreams can have a positive effect on reality. Legend states that Pope Innocent III had a *nightmare* in which he imagined that fishermen pulling in their fishing nets from the Tiber between the Mole Adriana and the old bridge Neroniano, found the soft little bodies of infants that had been thrown into the river by unfortunate women, eager to suppress the fruits of their sins. Two XV Century frescoes depicting this legend, "Fishing macabre" and "The Dream of Innocent III", XV Century's frescoes, can be found in the Sistine Chapel of the Santo Spirito Hospital. The Pope, horrified by his vision, ordered the establishment of a safe haven for girls in need who were without family, the sick, the infirmed and the abandoned.

This refuge was established at the Hospital of Santo Spirito in Saxia. Investigating the history of the hospital leads you along a fascinating journey into the history of healthcare in Rome, a journey that helps to explain how Public Health in Italy, and in particular Rome, was founded. Furthermore it explains how health care assistance, funded by charities, both private and religious, developed into the social imperative that it is today guaranteed by the state.

The hospital was rebuilt after 1198, when a fire burnt down the Schola Saxonum, originally founded in 727. The new hospital was designed by one of the leading architects of the time, Marchiorre d'Arezzo. The Santo Spirito Hospital was the first building in Europe that was from its conception designed to be a hospital. Prior to this buildings used for accommodating the sick were private houses, donated by benefactors, or buildings that were shelters for beggars.

The hospital's first tutor was Count Guillaume Montpellier, a successful tutor from France.

The major innovation was the ability to accommodate up to 300 beds for the ill, while providing services for a large number of impoverished citizens (up to



1000) by the way of food, clothes, and money.

Another feature of the hospital was the care provided for abandoned infants. The hospital guaranteed to provide the children with an education until they found employment. The hospital also provided marriage dowries for girls from poor families.

It was the hospital's policy not to seek the parents of the children left in their care but rather to receive them and let them become "sons of the house". All of the orphans were granted Roman citizenship. Finally the hospital provided assistance for repentant prostitutes.

The hospital's first medical tutor was Count Guillaume Montpellier, a successful tutor from France.

In 1204, in order to regulate the new model for care, Pope Innocent III and Guillaume of Montpellier drew up a new law containing over 100 articles that was approved by Pope Gregory IX in 1228. This law provides in detail, for all phases of illness, the methods of care necessary as well as the rules of conduct for health personnel and the sick. It is one of the earliest examples of a modern day health regulations code. It covered in detail issues concerning construction, (for example, issues of long-term care); clinical dietetics, considering the various aspects of nutrition of a hospitalized patient with specific diseases as well as in general, while respecting the particular needs of the patients' age and physical conditions, and finally the use of galenic and medicinal compounds.

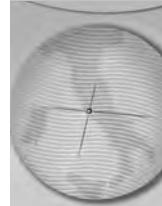
Not to be neglected, amongst other things, was the consideration of patient comfort: there were, in fact, performances of music from an organ installed in the wards in the hospital, anticipating modern music therapy. The imagine of sick patients in the Sistine ward of the hospital, cheered by the harmonies of a grand organ, is documented in a fresco of the Zucchi brothers, century XVI. Another fresco, depicting the breastfeeding of children while listening to the sounds of the Flute, is preserved in the hospital.

The first, medieval style building was substituted by a more modern and functional Renaissance structure by architect Baccio Pontelli, under Pope Sixtus IV in 1476.

The technical aspects of the structure are innovative for its time: the problem of accommodation of the sick during epidemics, such as cholera, plague, influenza, tuberculosis, etc., was addressed with the construction of isolation wards. There was also an innovative codification of drugs for experimentation, for example, the use of cinchona bark to treat malaria, tragically frequent in the Roman countryside during those times. The teaching of medicine was another important part of the hospital's practices, which aimed to combat illegal medical activity by barbers and other untrained persons. All of these innovations and practices, which were incorporated into the new law, however never overruled the original underlying and fundamental concept that the patient is the master and his assistant (the physician) is his servant.

Inspiration drawn from Christianity is evident in every aspect, accentuating rather than limiting the humanitarian traditions that have evolved and transcended through the ages.

In 1714 Giovanni Maria Lancisi, doctor to Popes Clement XI and Innocent XI, Head of the Santo Spirito and Teacher of Anatomy, donated his library to the hospital and ordered that the library materials be categorized as follows: grammar, rhetoric and poetry, history and politics; philosophy and mathematics, experimental physics, natural history, veterinary medicine, pharmacopoeia and chemistry, anatomy and surgery, Greek and Arabic medicine, medicine of the Ancient Latin, Latin modern medicine, miscellaneous, councils and church history, Bibles, as well as economic and civil law. In 1715, within the same library, The Lancisiana Academy was founded, a reverent place for medical and art lovers. The Academy has survived through the centuries, and today is still revered within the high-levels of the scientific community.



The scientific culture was by now progressing rapidly. In 1870, concurrently with the annexation of Rome to the Italian State, the school merged with the hospital resulting in the university teachers being able to officially teach in the wards of the Santo Spirito Hospital as well as in other Roman hospitals.

From this point in history the story transcends into modernity.

For the first time statistical information about diseases on noxae, the causes of deaths for hospital admissions and treatments, were beginning to be analyzed on a large scale to establish relations with various social and demographic factors. Scientific disciplines, especially medical ones, are no longer limited to pure empiricism but devoted to applied research. Methods, clinical and historical data collection, anatomical measurements, descriptions of diseases and official statistics gave a decisive contribution to the development of concurrence in the thinking of medical science and assistance, not only in the sense of charity and welfare, but to encompass diagnostic, clinical and therapeutic aspects.

It thus becomes possible to consider the basic problem described as: patients' origins and relationship with the pathologies, the prevalence and distribution of some comorbid conditions, examining the noxae pathogenic impact in absolute terms and its relation to social factors, the beginning and end of diseases, duration of treatment, outcomes and rehabilitation.

Basic theoretical assumptions could now be studied, including the relationship between biological, social and economic factors. It became possible to compare costs with the effectiveness of assistance programs in a work of rational planning and articulation of public policy.

Historical sources available to verify this are provided in some of the accounts given by historians over the years. But the best source comes from institutions which have continued to provide patient care, the Santo Spirito hospital for example has extensive historical archives. Historical examples exist demonstrating the use of appropriate methodological approaches, as well as perspective case studies and statistics in order to assess and interpret the reality and trends that were being seen at the time.

Of course there are always difficulties in translating, interpreting and analyzing historical data.

However, unofficial statistics have been compared with official data, events with descriptive medical reports and treatment protocols, reporting all the various historical periods of observation and study in order to validate the data. Although results are still far from the gold standards of today's research methodologies, we are for the first time faced with realistic data that can be subjected to correction factors can be developed and can provide a wealth of information, providing insight into the origins of our current health service.

On December 22, 1888 Law 5849 was promulgated concerning "Protection of Hygiene Public Health", supported by Baccelli, Prime Minister Crispi, was inspired by his experiences at the Santo Spirito Hospital. It was the first Italian public health and hygiene law after national unification.

On May 24 1896 by Royal Decree No 196, the Pio Istituto di Santo Spirito ed Ospedali Riuniti di Roma was established, responsible for the control of most of Rome's hospitals, including Santo Spirito.

Within a few years it became the largest hospital complex in Europe, with a total of 12,000 beds.

In 1870 in Rome, there were five public hospitals (not to mention those for pregnant women, asylums, institutions, national or specific diseases; two for the treatment of medical illnesses, the Holy Spirit and the Holy Saviour; three for diseases of surgical interest, the San Giacomo in Augusta for complex and the emergency surgery, the St. Mary of Consolation, and the San Gallicano for skin disorders. All of these hospitals, despite their specialization were still able to respond to the ordinary and extraordinary needs of the population for treatment of common diseases regardless of specialization. They were located so as to ensure

prompt intervention in each district of the city: Santo Spirito and San Gallicano in the west of Rome, the first in the village, the second in the neighborhood of Trastevere, San Giacomo in the northern reaches of the city, the most populous place in Rome, Ss.mo Salvatore in the east and Santa Maria della Consolazione in the south and center of the city.

Santo Spirito Hospital specialised in the treatment of febrile illnesses. Regardless of nation, caste, religion or age, patients were promptly hospitalized.

The medical visits were made twice daily before meals (as per the Decree Law of 11 November 1869 on the new system of health service) by a so-called primary doctor, each with his assistant (who also had guard lane duty) and a sub-assistant (who had to oversee the clinical rooms). For surgical diseases there was a primary surgeon, as well as surgeons, two alternates, and four sub-substitutes. The pharmacy had a chief chemist with six pharmacists working with him.

Under the direction of Francesco Azzurri, in around 1870, many improvements were made at the Santo Spirito. Azzurri's plan to redesign the Santo Spirito came about after extensive visits to many major European countries. Except for the large halls and the monuments, he intended to modernize the entire hospital.

The importance of the Santo Spirito can is entrenched in the historical events leading to the proclamation of Rome as Italy's Capital as it was the hospital that treated all of the wounded soldiers (Italians and Vaticans) during the various battles in the city.

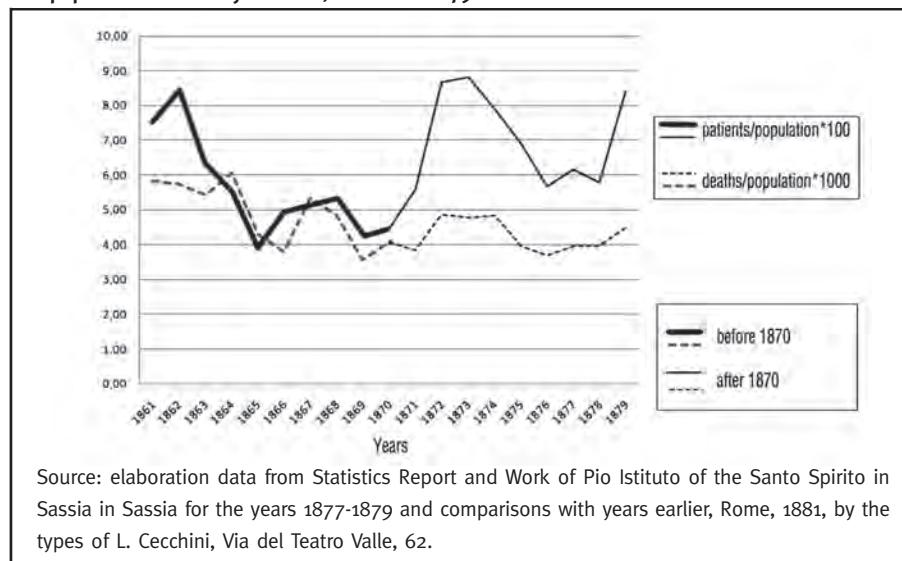
The development of Italian politics after the occupation of Rome involved hospitals and public health in Rome.

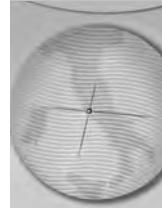
The first law of the new government was in relation to charitable organizations. This law was launched by the government in December 1870 and published in the Official Gazette of January 29, 1871. It removes charitable organizations from under the jurisdiction of the ecclesiastical authorities and places them under direct control of the state.

At that time the economic situation in Rome was extremely compromised, with the Roman population and the cost of living increasing considerably. Without the benefit of Papal and benefactor grants the Pio Istituto was burdened by debts. A long series of requests for assistance by administrators as well as concessions being granted by the politic authorities resulted in the government gradually narrowing free admission to hospitals.

However the hospital was doing its job well and it was necessary to demonstrate this to the authorities in order to obtain funding.

Graph 1. Illness trend rates per 100 in the Santo Spirito in Saxia Hospital and deaths per 1000 of the population of the city of Rome, from 1861-1879.





Francesco Scalzi, Medical Inspector of the Santo Spirito Hospital, wanted to prove this by describing how the Romans citizen had fallen sick and the number of deaths from disease from 1880-1882. He also attempted to demonstrate the effectiveness of the Hospital's treatment of typhoid fever during the period 1880-1885. The study was carried out between 1877-1879. The reworking of this study through modern statistics is described in great detail, graphs and tables in the volume titled "1870 Roma Capitale. L'assistenza sanitaria nel più grande spedale dell'urbe. Arcispedale Santo Spirito in Saxia" 1870 Rome Capital. *Health care in the largest hospital in the city: Santo Spirito in Saxia*. An example from this study is depicted in Graph 1.

Many other graphs, in the volume, show differences in internal hospital dynamics (undoubtedly due to changes in modalities of care and treatments). It may be inferred that in the two periods there were some significant changes, which can be described considering an increase in the number of persons sick and hospitalised patients and a decrease in the number of those who died. This indicates that there was an increase in the "capacity to care" within the Hospital after 1870 compared to the previous decade (which may be associated with a greater ability to "heal" the those who were sick).

The conclusions are significant: there are important differences between the periods 1861-1870 and 1871-1879 both in the number of sick who came in the Santo Spirito Hospital and the number of deaths in the same time periods.

These differences justify the hypothesis that there were undoubted and effective changes in the methods of care and treatments at the hospital. After 1870, the number of adverse events (death of patients) was minimized despite an increase in the number of admissions.

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